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VOLUME CI, NUMBER 788 NOVEMBER, 1942 TABLE OF CONTENTS, PAGE II

## What Regulates Annual Food Poundage?

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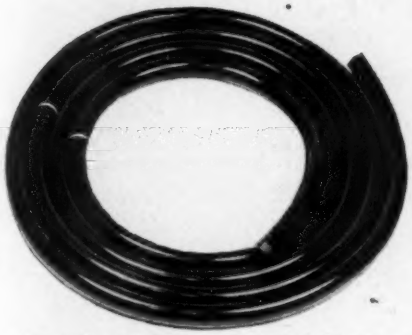

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# Veterinary Resources as Aids to Victory

JOHN R. MOHLER, V.M.D., D.Sc.
*Washington, D. C.*

THE WORLD EVENTS that have transpired since we met a year ago provide a fitting basis for the study of corresponding developments in the veterinary field. The entry of the United States into the war last December extended our objectives. Whereas, ordinarily the knowledge and energy of veterinarians have been directed against animal diseases, now we have the further motive of assembling every resource to defeat ruthless human foes as well.

And whereas veterinary science, in the past, dwelt with food supplies largely in connection with the economical production of animals and inspection of their products, its present scope is vastly broader—namely, to strengthen the sinews of our fighting forces, their allies, and loyal home folks. A still further example of our widening horizon is its geographical scope. For many years the work and plans of this association have been encompassed chiefly by the boundaries of the United States and Canada. But now and for the duration of the war, I am confident that we all seek to make the influence of this body felt in whatever part of the world it can best help the forces of freedom. Let us now consider our veterinary resources as aids to victory, taking stock of what we have and how we can put them to most effective use.

Presented at the Seventy-ninth Annual Meeting, Chicago, Aug. 24-27, 1942.

Chief of the Bureau of Animal Industry, United States Department of Agriculture.

## VETERINARY KNOWLEDGE

Our first great resource is a vast fund of veterinary knowledge. By laboratory research and field trials we, and those who have gone before us, have built up a great storehouse of information. This knowledge, fortunately, is imperishable. We can use it freely. Much of it is now so familiar that we take it for granted. But it is basic to the efficient service of the veterinary profession and to the success of the wartime food program.

This knowledge is conveniently available in printed form—in reference books and scientific journals, and likewise in scores of bulletins and farm and livestock periodicals. A recent addition to this store of literature is the 1942 Department of Agriculture Yearbook, just issued. It is essentially a veterinary volume. Under the title "Keeping Livestock Healthy," it contains a foreword by Claude R. Wickard, Secretary of Agriculture, who declares that the slogan "Keep 'Em Healthy" as applied to livestock is a fitting counterpart to "Keep 'Em Flying." "Few persons," he says, "realize the care and skill necessary to keep livestock healthy under the conditions of intensive production that prevail in this country." The new Yearbook contains more than 1,200 pages and covers the most important livestock diseases.

A still further recent contribution that I hope may be helpful in the control of

animal diseases is a report the chief of the Bureau will issue shortly on the current livestock disease situation in the United States. This will acquaint veterinarians and livestock owners with the chief dangers that threaten livestock and how to furnish the best protection.

Basic veterinary knowledge has still other applications, some of them concerning war industries. Almost daily, veterinary officials in key positions furnish the War Production Board, the Army, the Tariff Commission, and other federal agencies with information of strategic value. For instance, veterinary spokesmen name the drugs and other critical materials that should be accorded shipping space in vessels traveling to or from our shores. Some of the questions and answers concern the crude materials from which drugs and other chemicals are made. The inquiries from military and other official sources have dealt also with the nutrition of animals, including especially horses and dogs.

### PRIORITIES FOR VETERINARY MATÉRIEL

The information furnished in response to the requests often involves priorities and the allotment of materials. Sometimes the quantities involved are small, but the need is great; for instance, metal for ear tags, for veterinary instruments, or for packing-house equipment. A little of the right material in the right place may keep a profession or industry operating at full speed ahead instead of limping along through lack of seemingly minor but nevertheless essential parts.

The continued supply of the drug, phenothiazine, has been the result of official veterinary recommendation, together with a receptive and understanding attitude by officials of the War Production Board. The same comment applies to a continued output of liberal quantities of dips and disinfectants; in fact, to most supplies that are used by veterinarians or that contribute to efficient and large-scale production of livestock.

Let me make it plain that in the question of priorities, in which one need must be weighed against another, veterinarians have acted for the most part as technical advisers. The final decision is made by officials of war agencies.

The foregoing examples illustrate sufficiently the value and uses of knowledge as a primary veterinary resource.

### TRAINED VETERINARY PERSONNEL

Our second great resource is a trained veterinary personnel. This is the human element that takes the knowledge and applies it. In point of numbers, veterinarians are a comparatively small professional group, estimated to comprise about 12,000 active workers. But they have developed the faculty of extending what one man can do, by utilizing assistants and equipment that save time and labor. In meat inspection, veterinarians commonly have lay assistants and, in the Army, veterinarians are officers, beginning with the rank of first lieutenant and advancing as high as brigadier general. In state and municipal services, much of the work likewise is supervisory. Thus, many veterinarians operate in key or commanding positions.

Even in private practice much veterinary work is supervisory or involves the handling of animals in lots of considerable size. These procedures tend to foster the development of executive ability and coöperative temperament, both of which are valuable assets in wartime.

### PROFFERED AID TO BRITAIN

At times, the duties that a veterinarian is called on to perform involve a high degree of personal resourcefulness and have dramatic aspects. Last year, at the request of British officials, Dr. Adolph Eichhorn, director of the Bureau's Animal Disease Station, made a preliminary study of the livestock disease situation in England. One of the objects was to determine whether vaccination of British cattle for the prevention of brucellosis would be feasible under wartime conditions and lead to improvement in the milk and meat situation there. As a result of this survey, which pointed to the value of such vaccination, the British Ministry of Agriculture and Fisheries asked

for aid in producing the vaccine and organizing the field work. Responding to this request, Dr. C. K. Mingle, also of the Animal Disease Station, flew to England last February. He began the trip in a Canadian blizzard. To protect the culture that he was carrying for the production of vaccine, Dr. Mingle kept it close to his body under his sheepskin flying suit. The culture was our strain 19, which, as you know, represented many years of veterinary research in the United States. Arriving in England with the culture and about 100 pounds of equipment, he found that a suitable centrifuge needed for producing the vaccine was not to be had. Again, bomber transport was used to furnish this essential equipment and the centrifuge was soon in operation in the English laboratory.

### AMERICAN METHODS EXPLAINED

Dr. Mingle explained our methods of producing and using the brucellosis vaccine to British officials, members of the Royal Society of Medicine, and the laboratory technicians detailed to assist him. When he left England in July the laboratory was making large quantities daily and the output was increasing. The British Government has been appreciative of the assistance and farmers are eager to use the vaccine. Necessarily, the results will not be apparent for some time, but it is likely that use of the vaccine will eventually increase the milk and beef output of British herds. Thus, the United States is sharing with its allies both its scientific knowledge and the services of its trained personnel.

### VETERINARY ORGANIZATION

A third resource of the veterinary profession is its organizations that enable members to plan and work together. Veterinary organizations embrace the veterinary colleges, county, state, and national associations, and official bodies such as the livestock sanitary boards and the United States Bureau of Animal Industry. Of course, they include also similar bodies organized and maintained by our colleagues in Canada. These bodies are the outgrowth, on the one hand, of the desire of veterinarians to organize for mutual benefit and, on the other, to serve public needs. An organization gives weight to individual effort and also carries on the torch which an individual must relinquish at the end of his life span. An organization gives the strength of collective action and provides for continuity of a project until final completion.

The particular benefits of an organization in wartime are the logical contacts that it provides for working with other groups. Its officers are the contact representatives and spokesmen for the main body. We see the value of organization likewise in the sponsoring of legislation and in carrying out the duties imposed by legislative enactments. The federal meat-inspection service is a case in point.

In June of this year, Congress authorized the extension of inspection to meat packers engaged in intrastate commerce. The purpose of this wartime measure was to facilitate the purchase of meat and meat-food products by federal agencies, especially those supplying meat to the armed forces and the Federal Surplus Commodities Corporation. This added work will introduce a number of new and difficult problems, but the prospects are favorable for performing it without reducing the past standards and efficiency of the federal meat-inspection service. Thus, the original organization provides a dependable foundation for the added superstructure which should have a beneficial effect on all local meat-inspection systems.

### VETERINARY EQUIPMENT

A fourth resource is a highly realistic and tangible one, namely, physical equipment and materials. This resource includes the equipment of establishments engaged in the production of veterinary biological products and that of research laboratories. It includes facilities used in meat and milk inspection, in veterinary hospitals, and in plants that produce dips and disinfectants, and many other materials needed by veterinarians in serving the livestock industry and the public. The existence in the United States of these physical facilities is a valu-

able national resource in support of the food program and general war effort.

It is conceivable that in future emergencies some of the well-equipped veterinary hospitals may serve human needs. In the present total war almost anything may happen. In case of attacks on our cities the facilities of veterinary hospitals should be useful for human as well as for animal patients. I have in mind particularly x-ray equipment, anesthetics, surgical instruments, and drugs. Let me emphasize that this suggestion relates only to facilities; treatment of human beings, of course, should be by members of the medical profession, and treatment of animals should be by veterinarians.

As I stated a moment ago, anything may happen in a war of this kind, a truism that should impress on us the value of being prepared for unexpected developments of any kind and unexpected needs for veterinary supplies and service. It is both gratifying and noteworthy that establishments making biological products are to a large extent located in the Central West where danger of attack is considered less than in seaboard areas. It is gratifying also to know that many noncommercial laboratories have facilities for producing various types of biological products that may be needed in large quantities. The Bureau of Animal Industry, for instance, has been producing about 11 million doses of tuberculin a year for official field activities and experimental purposes. Last year laboratories of the Bureau also furnished sufficient swine-erysipelas vaccine to immunize more than 500,000 hogs against swine erysipelas and enough antigen to enable veterinarians and state agencies to make 25,000 tests for the same disease.

## VETERINARY PLANNING AND STRATEGY

Thus far we have considered different types of veterinary resources—all potentially useful in building up bulwarks of national defense and increasing our military might. I now invite your attention to a fifth resource—that of planning and strategy. This resource lends directness of application and dynamic power to the others. It is the resource that takes knowledge concerning the life history of a parasite, for instance, and determines the most vulnerable point of attack. It is the resource that insures the success of our field campaigns. It is the ingenuity that uses the living chick embryo as a culture medium for a virus. This kind of resource is essentially one of planning and strategy, based on our knowledge of the whereabouts and strength of the disease enemy.

## A SEVEN-POINT VICTORY PROGRAM

I now offer for your consideration a seven-point program that should hasten military victory by the democracies, for the reason that large supplies of sound, wholesome livestock products augment the power of armed forces.

*The first point* is furnishing technical assistance to military officials and war agencies. This means professional advice and aid to county war boards and similar units. It means plans for the proper disposal of garbage from abroad brought by ships that enter our harbors for overhauling and repairs.

At present a national drive is being made to save fat for producing glycerine used in the manufacture of explosives. Among other groups, farmers are urged to see that no fats are wasted. Sponsors of the fat-collecting drive have urged that farmers send dead animals to rendering plants. A supplementary feature of the drive is the salvage of hides.

As veterinarians and good citizens we should, of course, support worthy efforts of this kind. But there is opportunity here for professional guidance. Inexperienced persons motivated by the best intentions but unfamiliar with animal diseases and livestock sanitary laws and regulations may contribute, unknowingly, to livestock mortality. In the case of animals dying of anthrax, there is danger also to human health in the handling and skinning of carcasses intended for grease production. Timely veterinary counsel on matters of this kind will prevent situations that would be costly to correct.

I have already mentioned how informa-

tion is being supplied on questions involving priorities and shipping space. The meat-inspection service alone is rendering assistance to 15 Government agencies through the examination of meat and meat-food products for condition and conformance to specifications.

*The second point* in the proposed victory program is alertness to detect new or unusual diseases and conditions. The great increase in the number and movement of aircraft introduces a new element of danger in animal quarantine work. Foot-and-mouth disease is especially feared but there are likewise other foreign maladies that must be excluded and veterinarians carry the responsibility for doing so. A hog disease in Africa somewhat resembles our hog cholera, but the serum treatment which is effective against hog cholera does not prevent the African disease. Let all of us, therefore, be on sentry duty, so to speak, for the detection of unusual disease conditions.

*The third item* in the proposed program is to report such cases immediately to state and federal officials. Livestock owners should be encouraged to report any disease—especially strange ones—to their nearest veterinarian. Should a foreign infection be suspected, the use of telephone or telegraph is imperative. Time is a vital element in warfare against animal disease, communicable ones in particular.

*A fourth point* is that of improving sanitary conditions to reduce the opportunity for infections to gain footholds. This element of our strategy may seem prosaic, but it is one of the most effective and practical means of keeping livestock healthy. An excellent example is found in the familiar swine sanitation system. According to best estimates this is now being used on at least half the farms of the country where hogs are raised. The system, resulting from veterinary research, is saving the country millions of pounds of pork and is making possible the conspicuous success of augmented swine production this year.

*A fifth point* in the proposed program is the vigorous stamping out of every known center of infection before it reaches larger proportions. Our studies have shown that hog cholera, for instance, is now under reasonably effective control. On the basis of 7,500 outbreaks officially reported in the United States last year and making liberal allowance for those not of public record, only about one farm in a hundred was infected. That, of course, is only a rough figure but it is a striking contrast to conditions that prevailed when we had no serum-virus treatment to stop its attacks as it swept through farms like a devastating fire. Promptness in the use of this product or the new vaccine, together with other control measures will continue to limit this disease to its present small proportions. The same principle applies to other maladies, including the parasite diseases.

*The sixth point* is to give special attention to conditions that affect supplies of essential strategic materials. In addition to food, these materials include leather, sheep casings, and shearling pelts. Grubs and warts continue to affect adversely the quality and quantity of leather needed for military and essential civilian uses. Recent reports show that about 35 per cent of all cattle hides marketed in the United States annually are grubby. Also about two pounds of meat are commonly trimmed from the carcass of a grub-infested animal. This quantity represents the aggregate loss of more than 10 million pounds of meat annually. These losses in hides and meat can be reduced. Nodular worms in lambs and sheep not only curtail wool and meat production, but injure the intestines from which casings and surgical sutures are made. The damage to the intestines is especially serious at present because of difficulties in obtaining them from foreign sheep-raising countries. Treatment of sheep with phenothiazine, together with changes of pasture, will increase the supplies of sound casings. War Department officials point out the need for increased numbers of sheep pelts for the suits of pilots and other fighters who need warm clothing. It takes about 10 pelts for a pilot's suit. Every possible means of conserving sheep and

lambs will help supply this essential requirement.

*The seventh and last point* on the proposed program is to enlist the coöperation of members of other professions and industries having a common interest in the protection of livestock health. The scope of this potential field of coöperation is much more extensive than may be at first apparent. Obviously, the meat, dairy, wool, and leather industries are benefited by a livestock-health program. But there are also others. The medical profession depends on pharmaceutical products of which healthy livestock are a conspicuous source. The transmissibility of some livestock diseases to man likewise provides a common bond of coöperation.

Other industries concerned with animal health include those that produce feeds, dips, disinfectants, cement, and sundry building materials used on modern dairy and stock farms. In fact, the entire public, as consumers and users of livestock products, may confidently be expected to support veterinary undertakings when the prospective benefits are demonstrated. These sources of coöperation should be helpful in extending and giving force to the work of the veterinary profession whose membership is small in proportion to the responsibilites it carries.

By thus thinking and working together we, as veterinarians, can gear our individual and collective efforts to the war machine with maximum effectiveness. I am confident of our ability to guard the health of the present livestock legions, to conduct meat inspection on its increased scale, and to perform other wartime responsibilities in a capable manner. More than that, we should be able to make further gains in the veterinary campaigns undertaken before the war and still in progress. I refer to the suppression of cattle ticks, tuberculosis, brucellosis, scabies, dourine, and other maladies. These attainments, through their effect on improved livestock resources, will contribute to military victory and also improve the post-war resources of the United States and its allies.

## Equine—Canine—Bovine—Feline—Porcine

"Diseases of the Equine," "Habits of the Canine," "Mastitis in the Bovine," "canines," "bovines," "equines,' are so many examples of *not good usage* which should be erased from veterinary literature on the ground that ours should be one branch of knowledge where everything appertaining to objects of our art is as well known as the 26 letters of the alphabet. Strangely, ours is the only so-called scientific literature wherein these words are so badly misused. Because some dictionary written for general use condescends to make that mistake is no reason why you—a veterinary scientists—should do so. Horse is a species of the genus Equus. *Equine* means "of, pertaining to, or resembling the species," *Equus caballus*, a solidactyl mammal. Unmodified, the word horse refers only to one of the domesticated species of the horse family—Equidae. "Diseases of the Asinine," in speaking of the ass (*Equus asinus*) would be comparable usage. Crossing "caballus" with "asinus" makes the mule only 50 per cent equine. *Canine* is a perfectly good name for a certain tooth. *Bovine* gets the same analysis in classical dictionaries. Webster defines it as "pertaining to or resembling the genus Bos, or sluggish, patient, dull," but finds no place for it among the nouns. These three words seem to be taken as nouns only in veterinary-medical writing, the very place they should never appear. We've had "Peculiarities of the Feline," but "Troubles of the Porcine," has not yet arrived.

Cattle, cows, horses, hogs, cats and dogs have a right to their proper place in the veterinarian's budget of names.

---

The old, straight fencing of the farm—the square or rectangular field—is giving way to crooked fencing that follows the contour of the soil-erosion type of plowing. The curves in the fences become the guide for future plowers, and a permanent prevention of erosion.—*From Science News Letter, Sept. 5, 1942.*

# The Veterinary Profession and Its Present Responsibilities

BRIG. GENERAL R. A. KELSER, V.C., U. S. ARMY
*Washington, D. C.*

WHEN THE AMERICAN Veterinary Medical Association last met in convention, our country was busily engaged in building up its defenses in order to be better prepared should war be thrust upon us. Then followed Pearl Harbor, vivid in the minds of all of you, and our prompt acceptance of the war challenge hurled at us. Thus, today finds us engaged in the prosecution of a war of stupendous proportions—a war which will determine the character of our future existence and that of generations to come. To win it—and win it we must and shall—calls for an all-out effort and many sacrifices on the part of each and every one of us.

Our manpower is pouring into training camps for military service wherever needed; planes are being built on a huge scale; ships are sliding down the ways in ever increasing numbers; great columns of tanks and armored vehicles are rolling off the assembly lines; and cannons, guns, munitions and other military equipment and material are being turned out in vast quantities.

But no matter how much we are doing now, still greater efforts and sacrifices must be made to reach our goal. Never before have unity of purpose, the utmost in efforts, and any and all required sacrifices been so important and necessary to the safety and well-being of our country and people.

The question the loyal, responsible, self-respecting citizen undoubtedly asks himself is, "Where do I best fit into the picture—am I doing what I should and all I should?"

The veterinary profession, like other learned professions and specially skilled groups, must, and has, considered its place and responsibilities in the great task with which we are confronted. I repeat what I have said on previous occasions, that no profession or group is more conscious of its responsibilities or more eager to diligently and faithfully discharge them than the veterinary profession.

While Army veterinary service is important and must be entirely adequate, the importance of the veterinary profession in this struggle is by no means limited to strictly military service. This, I am sure, is well recognized by many of you. Let me, however, recount a few of the functions and responsibilities which go to make the veterinarian's rôle in this war a highly essential and important one.

## SUFFICIENT FOOD PARAMOUNT

In carrying on a war, food is just as essential as guns, planes, ships and munitions. It is important not only in the Army but also in the civil population left at home to support and supply the Army. Further, the soldier cannot be expected to fight his best and risk his all unless he is assured that his loved ones at home are being adequately fed and properly cared for.

Meats, meat-food and dairy products constitute a large portion of our normal diet. The average *per capita* consumption of meat in this country is approximately 145 pounds per annum. Of this, about 50 per cent is ordinarily consumed in the form of pork, 40 per cent beef, 5½ per cent veal, and 4½ per cent lamb.

To supply our own people with meat, millions upon millions of meat-producing animals have been going to our abattoirs annually to be converted into billions of pounds of meat and meat products. Now, in addition to the requirements of our Army and people, it is very necessary that we supply large quantities to our allies. While, fortunately, our livestock and dairy industries are extensive and have served abundantly to meet our own requirements with

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considerable left over for export, the supply is not inexhaustible nor immune to serious reduction under any and all circumstances.

As veterinarians we well know that only in so far as we can maintain our great herds, flocks and droves of food-producing animals in good health, protecting them from the ravages of disease, can we meet the demands so vitally important in this war.

The large part the veterinary profession has played in the development of our great livestock and dairy industries, through the control, eradication and prevention of disease is one of which every American veterinarian can be justly proud.

Many of our people, unfortunately, do not fully realize the extent and importance of the part the veterinarian and modern veterinary science play in their welfare and that of our country, especially in this crisis. There are many who look upon the veterinarian as one who laudably but largely ministers to the ailments and suffering among our pet animals and in some occasional cases treats a sick horse or cow. There would be a considerably better understanding if they could also see him out in the corn belt immunizing our hogs against cholera, protecting them against erysipelas, eliminating tuberculosis, and freeing them of parasites; and out in the range country vaccinating our cattle against anthrax and blackleg, controlling and preventing hemorrhagic septicemia, eradicating the Texas-fever-carrying tick, and on the alert for prompt detection and elimination of any other infectious diseases which might make their appearance and prove a menace. They would also see him busily engaged in our large sheep-raising sections, controlling and preventing lip-and-leg ulceration, sheep scab, pneumonia, parasitic and other diseases of this species, thereby promoting and safeguarding our mutton, lamb and wool supply. Among our vast dairy herds throughout the country they would observe him in his work with brucellosis or Bang's disease; they would learn of his outstanding achievement in tuberculosis eradication, of mastitis studies and investigations, and of his advice in breeding, feeding, and milk production improvement.

Surprise would often be evidenced when his important rôle is observed in the investigation, control and prevention of poultry diseases.

### MILLIONS OF HORSES AVAILABLE

Irrespective of the machine age, we still have some 14 to 15 millions of horses and mules and the story of how their health is protected and such diseases as glanders, dourine, encephalomyelitis prevented would prove enlightening to many.

We would point with pride to our fine veterinary meat-inspection service, unexcelled anywhere in the world, insuring to our people the very best in the way of a safe, wholesome meat supply.

Then, in the field of research, attention would be drawn to contributions which the veterinarian has made and is continuing to make to science generally, for the benefit of both man and the lower animal.

There are, as you well know, various other phases of veterinary service which I have not alluded to but which, nevertheless, are of great importance to our livestock and dairy industries, the public health, comfort and general welfare of our people, and our economic structure.

### ADEQUATE VETERINARY SERVICE REQUIRED

Recognition of the need and importance of adequate and efficient veterinary service, both in the Army and in civil communities, resulted in the inclusion of veterinarians in the operation of the Procurement and Assignment Service, approved by the President as an agency under the Social Security Administrator. This agency, as you know, is charged with the function of determining the overall national requirements for medical, dental and veterinary service, surveying the supply of members of these respective professions, and classifying them with regard to location, qualifications, availability for military or other service, etc.

Now let me say a few words regarding the veterinary service of our armed forces.

On a previous occasion, when we were

not actually at war, I was able to quote you figures on personnel and tell you more or less of the distribution of our service, volume of our inspection activities, etc. I regret that under present circumstances, as you will readily understand, it is not permissible for me to give you certain data and figures.

With the rapid expansion of the Army to meet war requirements, it of course, has been necessary to correspondingly increase the number of veterinary officers and enlisted men of the Medical Department (veterinary service). These increases have been fully adequate to meet all requirements and I can say that wherever we have troops in numbers of consequence veterinary service is provided.

### ARMY ANIMALS INCREASED

While our animal service has not been markedly expanded, there have been some increases in the number of horses and mules. Further, in order to conserve critical items, particularly rubber and gasoline, animals will probably be used to a greater extent at posts, camps and stations for local transportation requirements. All of this means that the care and treatment of sick and injured animals is still an important function of the veterinary officer at a number of Army camps and stations.

The type of installations and facilities provided by the Veterinary Corps for the care, treatment and hospitalization of military animals have been very satisfactory and a distinct improvement over some of the installations of World War I days.

### FOOD INSPECTIONS EXPANDED

Necessity for increases in our veterinary service, to a large extent, has been due to the ever-increasing requirements for veterinary inspection of meats, meat-food and dairy products. This becomes more and more important as the Army expands, requirements increase, and certain shortages develop.

To properly feed an army is always an important job, requiring adequate funds, good supply and mess officers, well trained cooks, and the proper type and quality of foodstuffs. No one factor has a greater bearing on the morale of the soldier than the adequacy and character of his mess. It is, therefore, highly essential irrespective of conditions and difficulties incident to a major war, that the high standard of the soldiers' mess be maintained. In this, our veterinary inspection service plays an important part. No army in the world is better fed than ours and we mean to keep it that way.

While figures are restricted data, you can well imagine the enormous quantities of meats, meat-food and dairy products required by our Army and the corresponding amount of inspection provided by the Veterinary Corps.

### SPECIAL VETERINARY TRAINING CONDUCTED

Special training of veterinary personnel is progressively carried out at the Army Veterinary School in Washington, the Medical Department Field Service School at Carlisle, Pennsylvania, here in Chicago where an excellent, intensive course is given in meat and dairy hygiene, at the Enlisted Technicians School, William Beaumont General Hospital, El Paso, Texas, at the Medical Department Replacement Training Center, Camp Grant, Illinois, etc.

Veterinary replacement assignment pools have been established at a number of stations in the country. Many veterinary officers called to active duty are first sent to a pool where they immediately have the benefit of a certain amount of training prior to being assigned to a more permanent station.

Our expanded laboratory service is functioning in an excellent manner. The laboratory division of the Army Veterinary School, as you know, produces a number of the biological agents utilized by the Veterinary Corps, including encephalomyelitis vaccine. Our research laboratory at the Front Royal Remount Depot is doing splendid work in the investigation of equine diseases of special importance to the military service.

Excellent relationship exists between our

service and other branches of the Army, particularly the subsistence and remount branches of the Quartermaster General's Office, where our duties are very closely associated.

### THE NEW DOG SERVICE

Another development which has undoubtedly come to your attention and in which you are probably interested is the possibility of using a considerable number of dogs in the military establishment. While this is in more or less of a developmental stage, it is entirely possible that dogs may be used on a considerable scale for various purposes. There is plenty of evidence to indicate their value in connection with sentry duties, guarding of warehouses, depots, etc. Then they could undoubtedly be used to advantage in battle areas to locate the killed and wounded, especially where the terrain is such as to make the task difficult for the human being.

Obviously, provisions will be required for adequate veterinary service for such war dogs as we may acquire. The Veterinary Corps has given the necessary consideration to this subject and is prepared to provide whatever is required.

### VETERINARY CORPS COMMISSIONS

Before closing, I want to say a few words with regard to new commissions in the Veterinary Corps, active duty for those who are in the Reserve Corps but not as yet called out, and veterinary students.

The routine commissioning of additional veterinarians in the Veterinary Corps was suspended about two years ago. This was done because the number of Veterinary Reserve officers was considered adequate for current needs and those anticipated for the immediate future. The only authorized exception is in the case of the veterinarian who happens not to be given a deferred classification by his local draft board. In such case, if he is fully qualified, it has been up to the present possible to commission him a first lieutenant in the Veterinary Corps, Army of the United States, and permit him to serve in a professional capacity. This action has operated to conserve veterinary professional talent, of which there is an overall shortage in the United States.

Recently, the War Department adopted the policy of not granting deferments to Reserve officers holding current commissions. Reserve officers who were considered to be occupying key positions in essential industry or who were key members of college faculties were given an opportunity, if they cared to do so, to submit their resignations for consideration by the War Department. If the Department found the evidence in support of the tendered resignation sufficient to accept it, the officer was given his release. The dead line for the tendering of resignations in these cases was set as May 31, 1942, and it was announced that on and after July 1, 1942, all Reserve officers holding current commissions would be considered fully available for active duty as required by the War Department.

In order to insure that veterinary students in accredited colleges of veterinary medicine may have the opportunity to complete their veterinary education, the Secretary of War recently approved a plan whereby such students, in good standing, may be commissioned as second lieutenants in the Medical Administrative Corps and allowed to remain in an inactive status pending completion of their veterinary courses. After finishing their veterinary courses these Medical Administrative Corps officers may be recommissioned in the Veterinary Corps, provided there are vacancies in the current authorized quota. In filling such vacancies, qualified veterinarians who graduated within the past several years and who could not apply for commissions because of the closing of the Veterinary Reserve Corps, will be given equal opportunity with future graduates for selection for commissions.

Veterinary students commissioned in the Medical Administrative Corps will have their commissions terminated under the following circumstances:

*a*) Failure to maintain satisfactory class standing, *i.e.*, failures which would result

in elimination from the course or retard the completion thereof.

*b*) Matriculation at an unapproved college of veterinary medicine.

*c*) Failure to complete the regular full course of veterinary instruction.

*d*) Failure to be selected for appointment in the Veterinary Corps, Army of the United States, within three months following graduation in veterinary medicine. In this connection, and as has already been indicated, the opportunity for selection will depend upon vacancies within current authorized procurement quotas for the Veterinary Corps.

In conclusion, let me say that the American veterinary profession is whole-heartedly answering its country's call, doing a splendid job both in and out of the Army, and when victory is finally won we will be able to look back with satisfaction on our part in its achievement.

The Four Horsemen ride again

WAR HAS ONCE AGAIN loosed the Four Horsemen of the Apocalypse upon the world . . . fire, famine, sword, and pestilence.

In the last war, the most deadly of these was *pestilence*. And today, in Europe and Asia, there is already a wartime rise in Tuberculosis . . . the dread TB that kills more people between 15 and 45 than any other disease.

You can help prevent a wartime rise of TB in our country—by buying Christmas Seals today . . . and using them every day from now to Christmas. *They fight Tuberculosis.*

BUY CHRISTMAS SEALS

The National, State and Local Tuberculosis Associations in the United States.

Buy Christmas Seals—and Have a Happy Christmas

# The Procurement and Assignment Service for Physicians, Dentists and Veterinarians

LT. COL. SAM F. SEELEY, M.C., U. S. ARMY

First I want to clarify my status as one in uniform of the Army. I am not here as a spokesman of the Office of the Surgeon General, since General Kelser is here in that capacity. I am on full time duty as the executive officer of the Procurement and Assignment Service which, as you know, is now a part of the War Manpower Commission.

As executive officer I am speaking as a representative of the directing board of the Procurement and Assignment Service, and as a deputy of the administrator of the War Manpower Commission I have been invited by your officers to present to you some of the plans for the utilization of the veterinary profession in the winning of the war.

I wish to review the status of the veterinary profession at the time of Pearl Harbor.

On the twenty-second of October, 1941, a meeting was held of the Health and Medical Committee, consisting of the Surgeons General of the Army, Navy and U. S. Public Health Service, representatives of medicine, dentistry and veterinary medicine, the Committee on Medical Research of the Office of Scientific Research and Development, and the medical director of the Office of Civilian Defense. Admiral McIntire indicated that not only should this service be set up as rapidly as possible but he hoped that it would be on its feet and functioning in sufficient time. We know that Admiral McIntire, as Surgeon General of the Navy and as personal physician to the President would have reasons to recommend that this personnel office should be set up as soon as possible.

The Health and Medical Committee acted rapidly and appointed a commission to meet six days later, which resulted in the setting up of an overall national agency designed to act as a personnel office for every member of your profession.

At that time, a committee was set up known as the Directing Board of the Procurement and Assignment Service, of which Dr. Frank H. Lahey of Boston is the chairman. Veterinary members were chosen, among them the Veterinary Committee, advisory to the central board, consisting of Dr. J. G. Hardenbergh, Dr. John R. Mohler, Dr. H. W. Jakeman, Dr. Wm. A. Hagan and Dr. Cassius Way. In each state of the United States there is a procurement chairman representing every veterinarian in the state, and in each of the nine geographical areas, then known as the corps areas, a veterinarian was put on the advisory committee to advise the corps area surgeon and to act in the capacity of the veterinary member of the referee committee, should the opinion of the state chairman be challenged by any of the local practitioners in the state. The organization at the time of Pearl Harbor was very new.

As you well know, the activities of our office have been mainly concerned with the procurement of a sufficient number of medical corps officers for the Army and to insure that the recruitment program of the medical corps of the Navy would go on uninterruptedly.

At the time of Pearl Harbor, the Navy had an adequate number of medical officers on duty and a relatively large reserve. Among the dental members they had an adequate number on duty and a sufficient reserve to care for the needs for several months. Their recruiting program, however, was going forward in an orderly manner.

In the Army, the medical corps was short 1,500 medical officers at the time of Pearl

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Formerly Executive Officer, Procurement and Assignment Service, War Manpower Commission, Washington, D. C.

Harbor. The number of medical corps officers demanded on October 31, for example, was 12,938 physicians, but there were only 11,343 on duty at that time. There was no shortage in the dental corps of the Army at that time. They had an adequate number on duty and a relatively large number in the reserves.

In the veterinary corps, fortunately, there was an adequate number of personnel to meet the immediate and expanding needs for many months and a reserve corps equal to the number on active duty at the time of Pearl Harbor.

The morning after Pearl Harbor, the Office of the Surgeon General, U. S. Army, made a requisition on our office for 1,500 medical corps officers. Within a few days they raised the ante to 2,600 medical corps officers, to be procured immediately.

I am not going to carry you through the difficulties of our office in the development of the program to get the emergency phases into effect, which would provide a sufficient number of medical corps officers of the Army. I would summarize, however, by saying that since the middle of May, three things have occurred: First, the enrollment form and questionnaire were mailed to every physician, veterinarian and dentist in the United States. All made their decisions as to preference for duty. Second, the Medical Department placed officers' recruiting teams in all of the states, and, third, because of the very slow rate with which the physicians were coming forward, Mr. McNutt appeared before the American Medical Association meeting in Atlantic City on June 9, informing the medical profession of the gravity of the personnel needs.

These three events sufficed to bring to the attention of the medical profession the necessity of immediately enlarging the Medical Corps of the Army and Navy. We are not at liberty to give the numbers who are now in these corps. For example, in medicine alone, by the end of 1942, 42,000 physicians will and must be on duty with the Army and Navy. At the present time the need is just exactly met, but we will need several thousand physicians between now and the thirty-first of December.

Procurement and Assignment has developed a program to the extent that we can now, in an orderly manner, call upon the members of the profession to come forward as they are needed.

With reference to the veterinary profession, the Procurement and Assignment Service has a very significant authority. It has been charged by the President with the responsibility of maintaining an up-to-date and accurate roster of every veterinarian in the United States; also, it has been charged with the stimulation of the voluntary participation of those members of the veterinary profession required by the Army, in order to meet the needs of the military forces.

An equally significant responsibility is, that adequate numbers of veterinarians shall be retained for the civil and industrial needs of this country and that their distribution shall be in that proportion demanded by the civil needs.

This, then, called upon our directing board to go to the Secretary of War for this authority: That no officer can be commissioned in the Veterinary Corps, the Medical Corps or the Dental Corps of the army without a clearance from the Procurement and Assignment office. This, in effect, is a certification that the individual can be spared from his present civil capacity. This authority insures that we shall have control not only over the numbers who go into the military organizations but we shall also control the distribution of those remaining at home.

In order to do this, in each state and in the District of Columbia, a chairman has been appointed who has the final responsibility of stating whether or not any veterinarian who volunteers his service to the Army can be spared, from the standpoint of his civil capacity.

The committee on veterinarians has drawn up criteria that should be considered, for example, in all the veterinary schools. These criteria have been applied. The deans of all veterinary schools have forwarded to

the state chairmen the names of those on the staffs of the veterinary schools, particularly the names of those who are essential as instructors. In this way, through our state chairmen, we are able to set these individuals aside as essential members. This, then, shall provide that the standards of veterinary medical education shall not be lowered.

With reference to the assurance that there should be sufficient numbers of veterinary students graduating from veterinary colleges, we went one step further and, through the office of the Secretary of War, General Kelser's office, and the Surgeon General of the Army, a program was worked out whereby the War Department agreed to give a medical administrative corps commission to those students in good standing in approved veterinary schools, thus insuring that they would not be called to active duty until they completed their veterinary medical education.

To further insure that the numbers of veterinary students would be forthcoming, not only in the numbers as of peacetime but in increasing numbers, if possible, to enlarge the program within the schools, the board conferred with the Selective Service. That office is required to consider every male in the United States under forty-five at a time that his number is drawn and his classification is in order. However, by arrangement with the War Department, and the granting of Medical Administrative Corps commissions to students in good standing in veterinary schools, the instant that a man is given a commission in this capacity, Selective Service gets credit for his number, and he falls under the jurisdiction of the War Department.

With the maintenance of the standards of education, and the number of graduates per annum, it was next necessary to consider the control of those who were graduates and in the practice of veterinary medicine. As I have stated, the War Department cannot commission a veterinarian if, through our office, he is certified as essential in his present capacity.

In order that the entire assets of your profession might be at hand, a questionnaire was prepared for the veterinary profession in April.

I am very proud to report to you of the American Veterinary Medical Association that, of the somewhat less than 13,000 veterinarians of the United States, fewer than 400 have failed to answer the questionnaire—the best percentage of any profession in the office of Procurement and Assignment Service; the most accurate and the most complete survey of any profession in the United States which today is under the War Manpower Commission.

Now that this information is at hand how shall it be treated? Should the office of General Kelser need veterinary personnel in excess of those now on active duty, his office will make a requisition upon our office for the names of those who gave Army as their preference for service at such time as the Army might need them.

Those of you who have visited some of the larger institutions, particularly in government, such as the F.B.I., have seen the workings of the roster system. The punch cards have been prepared with all of the information garnered from the questionnaire and enrollment forms which were mailed by the Procurement and Assignment Service.

All of these forms are processed by the National Roster of Scientific and Specialized Personnel which, combined with Procurement and Assignment, is housed in the same building in Washington under the jurisdiction of Dr. Elliott of the War Manpower Commission.

Immediately upon the receipt of the thousands of questionnaires, the aid of the Census Bureau was enlisted for coding and checking. The questionnaires were then taken to Baltimore where a large fleet of punching machines were available at the moment, and the punched cards were returned to the Washington office.

I have at hand a copy of the questionnaire. I will make a hypothetical requisition from the office of General Kelser. Let us presume that his office should ask of our service the names and addresses, shall we

say, of 100 veterinarians who are between the age of graduation and thirty-seven, who are citizens, either native born or naturalized; single, white, preferably with previous military service in R.O.T.C.; graduates of approved veterinary schools, shall we say in this instance, who hold appointments in equine research, particularly parasitology, and who have had experience in meat inspection; who speak Spanish fluently, and have had significant travel in the South Seas. If you desire a hobby, we will take aviation.

You and I doubt if there are any three veterinarians who have had such experience, but if so, their questionnaires have been so coded that their cards would be available instantly.

In the office we have over 225,000 cards punched, representing medicine, dentistry and veterinary medicine. As you know, we have over 12,500 cards punched for the veterinary profession alone.

The cards are placed in the machine, and the appropriate buttons are pressed down which indicate the date of birth, citizenship, foreign language, hobby, research in parasitology, etc.

The cards go through the machine and, by a few intermediate steps, all can be processed within eight hours. From the other end of the machine comes a list of the printed name and address of only those individuals who meet these requirements, broken down by states, each state broken down by the county, and the county broken down so that the names are in alphabetical order.

There is another button which we would push down, which would indicate that the man's first or second choice would be for service in the United States Army Veterinary Corps.

The names of those individuals who appear as a result of such a requisition, would be sent to Dr. Hardenbergh's office for professional clearance, to make certain that those who answered the questionnaire were graduates of approved schools and, who were in the opinion of the Procurement and Assignment Service, professionally acceptable to the office of the Surgeon General.

The clearance sheets would be returned to our office by way of the state chairmen. Each state chairman would certify on the form whether or not the individual could be spared, from the standpoint of his participation in civil life.

Upon return to the Washington office, the name of every individual who is cleared professionally, who is available, who gave the Army as his first preference and who meets the qualifications as determined by the requisition, will receive a letter from the office.

This letter, in essence, will say:

"You have indicated your preference for service in the Army should you be called upon to meet the demands of military service. We are now asking that you apply for a commission."

A carbon copy of the letter goes to the office of the Surgeon General. If he has a recruiting board in the state, the recruiting board will contact the man.

Another carbon copy goes to the state chairman so he will know that that man whom he cleared a few weeks ago is now being asked to participate.

Along with the original letter are two postal cards. One is addressed to the office of the Surgeon General, on which the recipient asks the appropriate authorities to contact him. The other card is addressed to our office telling us what he is going to do about it, so we may lay our plans accordingly and send out more letters, should there be failures.

In this way, then, the contacts through the office of the Surgeon General to meet the military needs can be expeditiously obtained, and those men who are qualified and who meet the requirements of the office of the Surgeon General can be sorted out in our office by the punch card machine.

As you know, we have a very close relationship with Selective Service. The dental profession was in about the same status as the veterinary profession at the time of Pearl Harbor. At that time the dental section of the army had a sufficient number on duty and in the reserves so they could

not say that they had a procurement objective representing a need for dental officers.

The responsibility of the Selective Service to the Army is to obtain the people necessary to the Army. Since General Hershey's office was not required to furnish dentists to the Army, when the name of a dentist came up for classification, it was obvious, so far as Selective Service was concerned, that his retention for the purpose of meeting the dental needs was not necessary because the Army not only had enough but said they had enough for some months.

It is obvious that Congress, in setting up the Selective Service System, provided that every male in the United States, under the age of forty-five, was available for military service. Congress gave to each of the 6,400 local Selective Service boards the autonomous authority to make the decision as to when the individuals whose numbers were drawn should be caused to enter the military service. No one else in this country has been given the authority to make that decision for any local board.

General Hershey and his office act as coördinators and supervisors of the overall program. They call to the attention of the local boards the provisions that must be applied or should be applied, in order to have the program uniform throughout the country.

Any organization, unit or individual, other than the members of the local board in your own locality, can act only in the capacity of consultants or those who would suggest whether an individual should be called into the service or not.

The local boards determine whether a man should be deferred, on three rather broad grounds: First, his physical ability to serve. We will discard that for the moment. That decision is made by the Army, which has recently lowered the physical standards. Therefore, that decision is made when or if the man under the other two broad divisions shall be classified 1-A by the Selective Service board.

The two important ones, with reference to our discussion today, are the dependency and occupational deferments. Now, from the standpoint of dependency deferments, it is obvious that the single man without dependents should go first, and Congress has made such provisions. However, along in April of this year the question was put by the central board of Procurement and Assignment to the office of General Hershey: "In view of the fact that members of the medical, dental and veterinary professions are afforded the opportunity of an outright commission in military service, we would ask what effect the provisions with regard to deferment, because of dependency, might have in these instances."

The answer was this: "That, in view of the fact that physicians, dentists and veterinarians, found qualified to serve in a commissioned capacity, would receive the pay and allowance of an officer, the question of dependency was practically eliminated."

In the veterinary field we have not had to ask that this provision be applied. I will say that in the medical field, in many instances, individuals who, in the opinion of our office or in the opinion of our state chairman, had no other reason than the plea of dependency to avoid going into the military service, for the moment—in those instances our state chairman had suggested to the local board that, since the $3,250 per annum payable to first lieutenants was adequate to prevent financial hardship, this dependency be not considered. In fact, the reverse is true in the veterinary profession because there is not a procurement objective in the office of the Surgeon General for the moment; therefore General Kelser's office cannot say that it needs additional veterinary officers.

The difficulties in our organization have been to keep the local boards from drafting as privates qualified veterinarians, wherein we ask that they reserve them for civil capacities, until such time as they shall be required for military service. We have not been 100 per cent successful but General Hershey has accepted each state chairman as a consultant to the local board. Our state chairman will say this to the local board: "We agree with you that this man may be

spared from the occupational deferment standpoint, but since he is eligible for a commission, he should not be deferred because of dependency."

But we say this to all local boards: "There is the overall national shortage of veterinarians, and we do not want veterinarians serving in the capacity of enlisted men. When they go into the service, we would ask that you reserve them until a vacancy occurs, so that they may serve in the capacity of professional veterinarians."

Some boards do induct veterinarians in the capacity of enlisted men. Every individual to whom this happens should make immediate application to the office of the Surgeon General for a commission. Provisions within the office make it quite possible that those who are professionally acceptable shall be discharged from the grade of enlisted man and moved to the grade of commissioned officer.

The third point with reference to Selective Service is that of deferment justifiable on an occupational basis. General Hershey has repeatedly called to the attention of all local boards throughout the country that there is an overall national shortage of physicians, dentists and veterinarians to meet the military, industrial and civil needs of the nation. Therefore, our state chairmen ask of all local boards that a man be deferred from the standpoint of his occupational participation in civil life so long as he may be needed in civil life and is filling an essential need.

We know in all three of the professions concerned that there are certain individuals that could be spared from the standpoint of filling an essential civil need. There are only two essential capacities neded to win this war: One is in the military service and the other is in a civil capacity which is lending its full support to the winning of the war by the military services.

Certain individuals are engaged in the practice of veterinary medicine, dentistry or medicine in a capacity that is not essential to the winning of the war. Therefore, when the question has been put before the local board, "Should this individual be inducted or not?" our local state chairmen say this: "If this man is necessary in a civil capacity, his deferment from an occupational standpoint is in order, and we ask that you not induct him."

However, if this man can be spared from civil life but is not eligible for appointment in the military service, we still say, since he is a licensed veterinarian in his state, that he fill an essential civil need elsewhere in the state in which he is licensed, should there be a need for him in industry or in other localities, and that he be given the choice of being an enlisted man in the service or a practitioner of veterinary medicine at home, filling an essential need.

The state chairmen of our organization have been serving and advising with reference to the deferment of individuals, based on their own good judgment, on the advice of the committee advisory to the central board, and on the broad, fundamental policies of the central board in Washington.

Your committee on veterinarians will soon have a meeting, at which time a census, within each state, of all veterinarians will be considered, based on the statistical data obtained from our cards. We shall also break this down into age groups within the states.

If, to win the war, it requires the services of every physically fit, professionally qualified physician, dentist and veterinarian in the United States, under the age of forty-five, in the military services, that is where he must serve.

We, therefore, say that any man under forty-five, who is physically qualified for military service, should consider immediately, or in the very near future, that, if we need him, we shall have to call upon him to come in and help win the war.

That means, then, that the men over forty-five, the women, and those under forty-five who have been rejected for physical reasons, must carry the burden back home and in industry, and that those who are physically fit must consider that, if they have not been called yet, should it become necessary to call them, we will have to do it.

I am very happy to say that there has

been not the slightest lack of response of the veterinary profession.

This is the kind of patriotism that will win the war, and is a direct indication of the recognition of the fact that every veterinarian in the United States is aware that he is in this war. I can assure you that throughout the country the reaction has been, among all veterinarians, dentists and physicians, that they shall serve in such capacity as the Surgeons General of the Army, Navy or the Public Health Service or the civil or industrial agencies shall require.

With this far-sightedness of the offices of the Surgeons General, the public health service, and the industrial and civil agencies and the pooling of all the resources with reference to personnel, research, professional qualifications, age group, sex, and color of these three professions in the United States, we shall win this war with the best medical, dental and veterinary attention that any Army in the world has ever had.

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## "The Cause of Domestication"

Under this title, W. L. McAtee, of the United States Fish and Wildlife Service, writes a brief on the age-old dispute over man's domestication of the terrestrial fauna; "the beasts of the fields and fowls of the air" which were provided in the process of mundane Creation. "How come any animal domestication at all by these early exploiters," has been the theme of many a thesis. Of course, by "early" is meant the eras and ages and eons preceding the arrival of Adam, Eve, Cain, Abel, Seth and their prolific offspring. Both secular and sacred history agree that farm animals and dogs were quite well behaved when these pioneers took over. Although that was but yesterday (4000 B. C.) there is not much evidence that any new animals have been domesticated since that historic beginning. If so, it would be interesting to know just what animals on earth today have been broken to harness since Adam started his farm operations.

In regard to "the cause of domestication" and when/where/how certain animals came to be tamed, one man's guess is exactly as good as another's. Theses on this subject are written around the ideas of other guessers—a sort of conclusion about who's right and who's wrong without adding any new argument to the debate.

The humane-minded folks of A. D. 1942, with their views on human and animal psychology, will agree with McAtee that animals helped to domesticate themselves. The thoughtful zoötechnician of this era finds it reasonable to admit that certain "beasts of the field and fowls of the air" may have sneaked around the human habitat for food when things got tough out in the hills and snows and rains came, or when the Buffalo grass got scarce in the Gobi Desert. As for dogs, which are said to have been tamed through prowling around the garbage cans, the presumption of self-domestication is logical. Dogs are still that way, but who will argue that cats are really domesticated?

What we're actually trying to say is that the scientist who messes with the origin of animal domestication must reckon with longer figures than the flick of time known as recorded history. It's like trying to explain where man came from and where he's going, for, when man lifted the curtain to future scientists he failed to hand over much of a record on such details as how he went about the business of taming animals, and of course, the animals domesticated could not leave much evidence of how they happened to yield to the will of man. Like the kindergarten story of the stork, yarns about animal domestication for adult consumption are quite allegorical.

As veterinarians are philosophical from necessity, they lean toward the theory that, not the whoopee of the cowboy, but inherent compassion for animals in distress was the factor which brought certain genera of animals into the human corral.

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Man forgets that he is himself an animal and that animals are as he is—members of the society of life and of the whole world.—*Rizcallah A. Sagr in Our Dumb Animals.*

# The Veterinary Profession in Canada and Its Trends in War Time

A. E. CAMERON, V.S.
*Ottawa, Ontario*

GREAT DISAPPOINTMENT was experienced by veterinarians in Canada when the Royal Canadian Army Veterinary Corps was disbanded Nov. 1, 1940.

This was the normal outlet for veterinarians for military service and during the last war our veterinary officers saw service in France, Belgium, Italy, Salonika, Palestine, Egypt, Mesopotamia, India, Siberia and North Russia. With the sudden disbandment of the veterinary corps Canadian veterinarians felt a sense of frustration.

Every effort has been made by veterinary associations and others interested to bring to the attention of the military authorities the wide field of useful work which could be carried out by a veterinary corps beyond the actual care and health of transport animals, but without any apparent result.

It is of interest to note that the Canadian Veterinary Corps, no doubt based on the British Veterinary Corps, never did undertake officially any meat-inspection duties nor inspection of foods and consequently when the Canadian Army was entirely mechanized it seemed a logical procedure to disband the corps as it had now no duties to perform under the old conditions.

As Great Britain is not a country exporting meat, there is no national meat inspection such as that carried out by the United States Bureau of Animal Industry or Health of Animal Division in Canada, both of which services originated from the requirements of foreign countries. Meat inspection in Great Britain is largely on a local basis similar to meat inspection within our states or provinces. This, together with the fact that it is only in comparatively recent times that veterinarians have been employed extensively by cities and municipalities, may account for veterinary officers' services not being used beyond the care and treatment of transport animals.

Now that there is no army veterinary service in Canada, veterinarians take their place in the army on the same basis as other citizens without their professional skill being used in a technical corps.

## CHANGES IN VETERINARY SERVICES

Probably because of difficulties in transportation of gasoline, there is evidence that some consideration is being given to using horse transport for army purposes, locally. If horses are used, provision would have to be made for their maintenance in good health.

The subject of civilian veterinary service, while presented as pertaining to Canada, no doubt applies in some measure to the United States also, and certainly to some portions of it.

One would be wise to anticipate far reaching changes following the present world upheaval. War is no longer a matter of professional armies but involves whole peoples. These changes include the general leveling down of large incomes by direct taxation. There is no reason to doubt that some of the repercussions from these changes will affect the veterinary profession. For example, small animal practice, which may to some extent be considered a luxury trade, might well be adversely affected, while on the other hand poultry practice might be enhanced to protect a valuable food supply. It is one of the anomalies of the situation that during such a war as this, the great mass of the people are prosperous, and unemployment is negligible but to offset this and prevent wild spending, a portion of earnings is collected in taxes and considerable moral pressure is imposed to induce saving through the purchase of government bonds and savings certificates. In addition, difficulties are placed

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Veterinary Director General of the Dominion of Canada.

in the way of acquiring luxuries. The result is probably an increase in consumption of the better types of food such as meat, milk and eggs with a reduction in luxury foods and personal adornment. It is hoped that following the war the savings made will tide the people over the difficult period which invariably follows until normal conditions are reëstablished.

It may be assumed that under these conditions a veterinarian will be called only when his services are essential. In the case of dogs and cats, these animals would probably have to absorb greater risks and be left to nature's healing.

Before this war, conditions were gradually being stabilized and hopes were rising that the good old times would return. It is, however, being brought forcibly to our attention that the old times will not return and the future holds in store what we make of our opportunities.

The years of depression in industry had a pronounced effect on the agricultural community, and money became scarce. This caused stockowners to take chances on the recovery of animals without veterinary care which would not have happened in more prosperous times. Difficulties arose for veterinarians in many farming districts where practice was not very good at any time. Living, under these conditions, was such that veterinarians either left the district or engaged in more remunerative work. When on top of this, the drought conditions and drifting top soil persisted for several years in some parts of the western provinces not only veterinarians but many farmers move to more favorable locations. Stock was moved to centralized pastures often far distant from the farms on which they originated. These adverse conditions have left some of the western provinces without adequate veterinary service.

Other factors tend to influence future trends. Most agricultural extension service is free. The technical agriculturalist does not practice or obtain fees for his services, but is the salaried employee of a government, federal or provincial. The mentality engendered by these conditions often is not favorable to the veterinary practitioner who must sell his services to the people who obtain free advice on other matters pertaining to their livestock. Then there is governmental control of disease, such as tuberculosis or brucellosis, carried out by salaried veterinary inspectors whose work takes them on all farms with live stock. This tends to induce the desire for free service, also. These things are quite evident from the correspondence asking advice on matters which are definitely within the sphere of the veterinary practitioner.

The tendency to paternalism in most modern states has been gradually encouraging the people to expect more free service, and this includes veterinary service.

When there are not sufficient veterinary practitioners, and outbreaks of disease such as encephalomyelitis occur where thousands of horses must be vaccinated, the outcry is considerable and the effect is obvious if it is not undertaken by governmental veterinary services. Many inoculations are made by unqualified people and the results are not always happy or effective. These circumstances gradually lead to the beginnings of state mericine. Already, some municipal councils have offered to guarantee a fixed annual income if a veterinarian will settle in their district.

## MANY IN PUBLIC SERVICE

In Canada, there are approximately 1,100 graduate veterinarians; of these, about 400 are in the Dominion service, mostly in the Health of Animals Division and employed in meat inspection and field work. Among practitioners, there are 244 accredited veterinarians all of whom have passed qualifying examinations and whose certificates of tuberculin and mallein tests are valid for exporting animals to the United States when endorsed by a salaried veterinary inspector of the Health of Animals Division. In addition, there are about 100 official veterinarians who may issue certificates of inspection of animals not subject to test, in accordance with the United States import regulations. About one hundred veterinarians have qualified, by examination, for part time employment in their own dis-

tricts. When money is appropriated and available they may be allotted departmental veterinary work. These part-time veterinarians are paid at the rate of $10 per day but not exceeding $150 in any one month, but they must provide their own transportation and pay their own expenses. They may be employed up to 15 days in any one month. Accredited and official veterinarians are paid by the stockowner.

It will be readily appreciated that a very large percentage of veterinarians in Canada perform work for the Government, either directly or indirectly. In the case of part-time veterinary inspectors, departmental employment assists them by providing work and payment outside of fees for normal veterinary practice.

To meet the needs of veterinary service in Canada, nearly 60 veterinarians are graduated annually from the Ontario Veterinary College and about 12 from the French speaking college at Oka, Quebec. Most of these graduates are absorbed into the federal service, and under present conditions the balance appears to meet the demand in communities which can and will support a veterinarian. It is questionable, however, if there are the number of veterinarians which the livestock industry in Canada should have to meet normal risks in an economical way. It takes time to educate stockowners to the value of veterinary service after periods of comparative freedom from disease. Just as in human medicine there is a tendency to go for advice to anyone except the medical man, so in veterinary matters the neighbors and the agricultural representative are consulted first. Their advice is usually free in so far as money is concerned but may be expensive in results.

There has never been a time in Canada's history when veterinary service was more important. A surplus of wheat has necessitated growing more coarse grains which can be transformed into meat. Increases of livestock are general. During the first year of war approximately 300 million pounds of pork were exported to Great Britain, and during the current year the Canadian Bacon Board has contracted to export 600 million pounds.

In 1941, it is calculated that milk production was increased 1,000 million pounds over that of 1940. This was manufactured into butter, cheese, evaporated milk and ice cream. Fluid milk consumption also increased by 8 per cent. For 1942, an additional 500 million pounds of milk are required to meet our exports of cheese and home needs.

The demand for wool, because of transportation difficulties in importing wool and the increased price for lamb, insures an increase in sheep production and this is being fostered.

The poultry industry has expanded. From a normal export of one million dozen eggs in 1939, our exports for 1942 will probably reach 50 million dozen or fifty times the prewar volume.

This is not advanced as an advertisement of Canada's agriculture, but to show that increased vigilance is necessary by Canada's veterinarians when livestock is increasing rapidly. High pressure production brings a long train of trouble in its wake. Cows are being induced to produce quantities of milk far beyond nature's arrangements and poultry are producing eggs under artificial conditions which require special care and feeding to prevent the sacrifice of constitution and stamina.

There must be constant vigilance and studied preparation against any possible introduction of foreign plagues under normal risks or deliberate sabotage as a war measure. These precautions are common to both the United States and Canada and in peace we have had a close coöperation and mutual trust. This will not be less when we are allies fighting for our existence under conditions of life we consider essential.

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Alfalfa contains large quantities of vitamin K.—*Science News Letter.*

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The dehydration of food has become a booming war industry because it conserves space and weight in shipping and for no other reason. There is no substitute for fresh food: eggs, milk, vegetables, meat.

# Publication Rules of the AVMA

## *Capitalization*

L. A. MERILLAT

EVERY BRANCH of knowledge has its primer. The study of capitalization is no exception. It cannot be broached without a reminder that proper nouns, the first letter of a sentence and line of poetry, and the personal pronoun *I* require the touch called capitalization. Without that touch the facade is grotesque, *voyez:* henry, johnston, ohio, boston, lake erie, atlantic ocean, almighty god, jesus christ, french revolution, world war.

But, the grammatical treatment of words with an initial capital letter is not all that simple. Beyond these examples, correct capitalization is not easy, in some instances controversial, and often a matter of choice.

To determine when terms like "bureau of animal industry," "federal government," "president," "governor," "mayor," "chief," "congressman," should be capitalized requires a little experience plus obedience to the rules of common grammar. Sometimes, the initial capital is but a mark of respect. For the chief executive of the United States, for example, one writes "the *P*resident," but that does not signify that the same tribute must extend to the town constable. Between these two extremes, capitalizing may depend upon the amount of respect one desires to show the person. However, these common nouns in apposition to the person's name must be capitalized, *e.g.:* "*P*resident Dimock," "*G*overnor Green," "*C*hief Mohler," "*C*hairman Wegner." When not in anterior apposition these names are plain common nouns and, therefore, not capitalized, *e.g.:*

W. W. Dimock, *p*resident of the American Veterinary Medical Association.

John R. Mohler, *c*hief of the Bureau of Animals Industry, U. S. Department of Agriculture.

H. H. Dukes, professor of physiology, New York State Veterinary College.

But were these names and titles to be listed in a catalogue or program, in a reference or bibliography, the proper style would be:

H. D. Bergman, Professor of Physiology, Iowa State College.

C. M. Haring, Professor of Veterinary Science, University of California.

C. C. Franks, Chief Veterinarian, Iowa State Department of Agriculture.

The distinction is between a name and title in reading material and in a mere listing without any text.

In the style of printing known as "caps and lower case" capitals are used in certain words that are not proper nouns, *e. g.:*

Inspection of Farm Animals.
Some Maladies of Baby Pigs.
Diseases of the Digestive Tract.

The general rule in this style of title is to capitalize all of the four-letter words regardless of their part of speech. The too free use of capitals in such titles may, however, sacrifice elegance or in omitting them in short key nouns, the emphasis that titles are intended to convey may suffer, *e. g.:*

War against Farmers' best Interest.
A Thesis on Tic in the Ox.

In these two examples, the four-letter rule would have spoiled both appearance and emphasis.

The rule regarding the first letter of a sentence and line of a poem, applies also to the name of each drug written into a prescription, *e. g.:*

Calcium chloride..... 4 drams
Boric acid..... 1 dram
Distilled water..... 2 ounces

Whether the prescription is written in English or Latin, the same rule applies: The first but not the second name is capitalized.

Capitalize the first word after a colon if the sentence or sentences to follow are com-

plete, but not after colons for simple enumeration, *e. g.:*

> The doctor gave the following directions: See that the medicine is given every two hours.
>
> The doctor left the following medicine: aloes, nux vomica, and a saline purgative.

### ILLUSTRATIONS BY EXAMPLES

The following lists of examples are intended to serve in part as a guide to the use of capitals in words commonly used in veterinary-medical writing. They represent the style used in AVMA publications.

A) *Capitalize proper nouns* and adjectives derived therefrom, *e. g.:*

| | |
|---|---|
| James | American |
| Brown | Frenchman |
| Boston | Englishman |
| Iceland | Italian |
| Dead Sea | Spaniard |

But do not capitalize anglicized proper nouns having a special meaning:

| | |
|---|---|
| pasteurization | paris green |
| roentgen ray | india ink |
| cesarean | prussic acid |
| eustachian | gram-positive |
| salmonellosis | mendelian |
| brucellosis | boycott |

etc., etc.

B) *Capitalize breeds of domestic animals.* Their names are proper nouns, *e. g.:*

| | |
|---|---|
| Bloodhound | Plymouth Rock |
| Bulldog | White Leghorn |
| Fox Terrier | Barred Rock |
| Setter | Southdown |
| Jersey | Merino |
| Shorthorn | Toggenberg |
| Hackney | Berkshire |
| Thoroughbred | Red Poll |

The geographic genesis of these names is, therefore, not the governing factor in their capitalization.

But do not capitalize, *e. g.:*

| | |
|---|---|
| race horse | dairy cow |
| show horse | beef cattle |
| stud horse | milking goat |
| polo pony | gun dog |

These are not generic names. They denote groups, varieties, and not genera nor even species. Such words are, therefore, capitalized in error.

C) *Capitalize the names of organisms* whether of the lower or higher types (microbes, worms, mammals). Like the names of breeds, these are collective nouns, always singular number, nominative case and, as we use them, the gender is neuter. Gender does not complicate English as it does foreign languages. The following are names which must always be capitalized:

| | |
|---|---|
| Amoeba (genus) | Equidae (family) |
| Ascaris (genus) | Felidae (family) |
| Bacterium (genus)* | Felinae (subfamily) |
| Bos (genus) | Felis (genus) |
| Bovidae (family) | Herbivora (order) |
| Canidae (family) | Homo (genus) |
| Canis (genus) | Mammalia (class) |
| Carnivora (order) | Nematoda (order) |
| Cestoda (order) | Strongylus (genus) |
| Equus (genus) | Trematoda (order) |

The above list contains examples of class, family, subfamily, order, and genus, which is to say, names of organisms requiring capitalization without exception no matter when, where, and in whatever manner they are used. Note how some of them have been changed to common nouns for convenience because plurals, and cases other than nominative, are useful. Examples are:

| | |
|---|---|
| carnivores | cats |
| herbivores | men |
| bacteria (veg.) | tapeworms |
| amebas (amoebae) | roundworms |
| mammals | flukes |
| dogs | strongyles |
| cattle | sheep |

The plural form is given to show how forbidden is the pluralizing of these words when used as collective nouns. Some of these transformed names are both singular and plural: cattle, sheep, moose, deer.

The words ascarids, trichomonads, strongyles, spirochetes, protozoans, are new "words of convenience" brought into the language of medicine from zoölogy, whereas *cats, dogs, men* were classified by zoölogists long after they were commonly used. The words *clostrides* and *coccides* would obviate blundering into the forbidden pluralization of Clostridium and Coccidium. Such common nouns are less clumsy than "specimens of Bos," "species of Equus," or the rococo, "individuals of Homo," in the place of cat-

*Of the vegetable kingdom.

tle, horses, men. New and convenient names that signalize their derivation are certainly not objectionable.

To be remembered is that in the addition of a modifier—adjective or noun in apposition—the generic term retains its initial capital, not because so directed by scientific societies but because they are as much proper nouns as James, Chicago, and Massachusetts, *e. g.:* Strongylus or *Strongylus contortus*, Amoeba or *Amoeba proteus*, Trichomonas or *Trichomonas fetus*. In AVMA publications, the names of genera are not italicized when used alone—unmodified.

D) *Capitalize the names of societies*, books, monographs. All of the words in the name of a society or association are capitalized, *e. g.:* "Eastern Iowa Veterinary Medical Association," "New York State Veterinary Medical Society." The newspaper style of not capitalizing all of the words in the names of such organizations is not generally approved in medical writing. Certain newspapers would write: "Eastern Iowa Veterinary Medical association," or even "New York State veterinary medical society." The AVMA style is to capitalize all of the words in association names.

When the organization is again mentioned in the text with the definite article it is capitalized, *e. g.:* "the Association," "the Society. Care is taken not to capitalize after the indefinite articles *a* and *an*. The same rule applies to committees, councils, bureaus when the whole name was previously written into the title or text, and to books, monographs, theses, etc. The proper noun having been designated in text or title, it is good form to refer to it below as "the Bureau," "the Book," "the Thesis," "the Committee." For the sake of argument, let us declare these names are common nouns after *this* and *that*, definite as these modifiers are. It is not grammatical to capitalize words as a sort of emphasis. A proper noun antecedent duly written out is required to qualify the abridgment as such.

E) *Diseases.*—The names of diseases require a capital letter only when derived from the names of persons, places, or genera, *e. g.:*

| | |
|---|---|
| African horsesickness | Demodectic mange |
| Bang's disease | Hodgkin's disease |
| Barlow's disease | Johne's disease |
| Borna disease | Newcastle disease |
| Carré's disease | Riff Valley disease |
| Chastek paralysis | Texas fever |

In veterinary medicine, the list is much shorter than in human medicine, and the trend in both fields is to replace these terms with more revealing pathological names, *e. g.:* brucellosis, paratuberculosis, piroplasmosis, pseudoleucemia.

The names of all other diseases of animals are common nouns. They are seldom capitalized in error in veterinary literature. The main offense in this respect is committed by writers of commercial veterinary literature who capitalize the names of diseases in describing specialized treatment for them. Do not capitalize, *e. g.:*

| | |
|---|---|
| metritis | ancylostomiasis |
| strongylosis | ascariasis |
| trichomoniasis | blackleg |
| vaginitis | mastitis |

etc., etc.

F) *Drugs and Chemicals.*—Save for a sizeable number named for persons or places, the names of drug and chemicals are as much common nouns as water, ice, steam, iron, lime, sugar, lard, cottonseed. Among the proper nouns of this class are:

| | |
|---|---|
| Dakin's fluid | Gram's stain |
| Epsom salt | Lange's solution |
| Fehling's solution | Lugol's solution |
| Fowler's solution | Monsel's solution |
| Glauber's salt | Ringer's solution |

The galenicals and their derivatives (tinctures, extracts, alkaloids, glucosides, elixirs, syrups, lotions, etc.), the mineral elements and their salts, and the acids of whatever source should not be capitalized whether written in English or Latin.

Unexplainable is the extent to which the authors of the best books of this class throw discretion to the four winds in capitalization. The "bibles" of the pharmaceutical, medical, and veterinary fields are equally reckless in this respect. Some of them must startle the disciples of Noah Webster. Quoting, for examples:

The preparations of Nux Vomica and its

second alkaloid, *B*rucine, act essentially the same as *s*trychnine."

If *nux vomica* and one of its alkaloids, *brucine* are capitalized to make the words stand out, the editor should not have followed a few lines below with:—

The action of *b*rucine is much weaker. . . .

In one of the large official "bibles" of the drug-and-chemical realm, opened at random near the middle, one finds at first glance:

The Br. recognizes *S*odium *P*hosphate as containing not less than 99 per cent and not more than . . .

If this capitalization of sodium phosphate has a purpose, then why in the next paragraph is the style changed to:

Sodium *p*hosphate is prepared on a large scale. . . This is then concentrated to separate the calcium *s*ulfate. . .

These are but four examples selected at random from classical books written for the pharmaceutical and therapeutic fields. Hundreds of others could be cited. So, to study proper capitalization for drugs and chemicals, there seems to be nothing to recommend but the school books and dictionaries. The AVMA suggests, *e. g.:*

| *English* | *Latin** |
|---|---|
| ammonium chloride | ammonii chloridum |
| arsenous acid | acidum arseniosum |
| sodium bicarbonate | sodii bicarbonas |
| magnesium oxide | magnesii oxidum |
| camphor | camphora |
| gentian | gentiana |
| tincture of opium | tinctura opii |
| iodine | iodum |
| etc., | etc. |

G) *Capitalize geographic names.*—There is but little chance of erring by omitting capitals in the names of countries and their political divisions, lakes, seas, islands, towns, mountains, etc. But, errors do creep in where the region designated is somewhat indefinitely circumscribed: South, East, West, North, Orient, Occident, Middlewest, Cornbelt, Cottonbelt, Wheatbelt, Goiter Belt, Great Lakes Region. These should be capitalized except in the case of the points of the compass indicating direction. Examples:

Prosperity in the Cornbelt (or Corn Belt)
Drought in the Wheatbelt (or Wheat Belt)
Tick eradication in the South (not south)
The ducks fly north (not North)

But for the fact that authors are sometimes careless in these respects, no mention would have to be made of this part of capitalization.

H) *Capitalization of abbreviations.*—Whether an abbreviation should be capitalized depends entirely upon whether it abridges a proper or common noun or phrase. The capitalization of B.A.I., U.S., D.V.M., Jan., Ala., Ph.D., Br. (Brucella), Str. (Streptococcus), Mr., Mrs., Dr., etc., is governed by grammar not by custom or choice.

The abbreviations p.p.m. (parts per million), r.p.m. (revolutions per minute), m.l.d. (minimum lethal dose), a.m. (ante meridian), p.m. (post meridian), and others of the same type should not be in capitals. Less usual abbreviations, not previously spelled out in the text, should not be used at all. Authors should remember that they are teachers, not of their peers, but of their inferiors, as a rule. Coined abbreviations of the unusual sort should be ruled out. What is an editor to do with A.S.O.A.C. until informed that it's the initials of American Society of Agricultural Chemists? Fishbein's *Medical Writing* mentions G.O.K. which upon investigation proved to mean "God only knows."

The following abbreviations in addition to those named above are not capitalized, *e. g.:*

| | | |
|---|---|---|
| *e.g.* | *exempli gratia* | for example |
| *et al.* | *et alii* | and others |
| *gtt.* | *guttae* | drops |
| *ibid.* | *ibidem* | same place |
| *id.* | *idem* | the same |
| *i.e.* | *id est* | that is |
| *loc. cit.* | *loco citato* | where cited |
| n. | ..... | noun |
| l.c. | ..... | lower case |
| p. | ..... | page |
| pp. | ..... | pages |
| sci. | ..... | science |
| sp. gr. | ..... | specific gravity |
| tr. | ..... | translation |
| v. | ..... | verb |
| *vs.* | *versus* | against |
| *via** | *via* | by that way |
| *viz.* | *videlicit* | namely |

In keeping with the custom of italicizing

*For the nominative case only.

*Not an abbreviation.

foreign words and phrases, their abbreviations are likewise written in italics in AVMA publication.

F) *Table, Group, Figure, Chart, Experiment, Case.*—These words are not capitalized in referring to them in text material. The fact that material was condensed, tabulated, or illustrated elsewhere in the article does not make them proper nouns. Moreover, where reference to them is frequent in a paragraph, the result is ugly. It is better form to write:

This observation is shown in *t*able 2 . . .
The result is seen in *e*xperiment 4 . . .
See dart in *f*igure 1 . . .

Initial capitals for this group of words are not used in the AVMA publication.

Many groups of names requiring initial capitals could be compiled: institutions, treaties, wars, Biblicial terms and names, and others. A good general rule to follow is: *"When in doubt do not capitalize."* The trend is toward the sparse use of capitals. When numerous capital letters become crowded into a short paragraph from necessity, some of them can generally be deleted by reconstructing the sentences.

## "The New Cow Country"

After a trip through the South, the editor of the *Breeder's Gazette* (Sept., 1942) calls Dixie "The New Cow Country." In writing a wealth of detail about a certain plantation, taken as an example, he leaves little untold about the breeding, feeding, management, etc., etc., which are remaking Dixieland. But nowhere is there a single hint about the *raison d'etre*—the fight for tick eradication waged for years by the veterinary service against discouraging odds. In fact, all credit is given to the breeders some of whom, as we recall, fought the veterinary inspectors with firearms or bombed their dipping vats. The truth without the whole truth and nothing but the truth doesn't always make sense.

Those who write true history about the remaking of the South think first of Smith, Curtice, Kilbourne, Salmon, Melvin, Mohler, Bahnsen, Cary and some forty or more other veterinary officials against whose work in the states the *Breeder's Gazette* threw many an abusive invective when tick eradication and other livestock sanitary programs were proposed and initiated. In boasting about the bigness of our animal industry in the North, East, West and South, these are seldom mentioned by the commentators. "Consistency thou art a jewel" all right, but it's a jewel quite rare in writing about the history of American livestock production. The breeders take all the decorations while those who paved the way for their enterprise and keep it from going berserk are kept in the background. The occasional concession that veterinary science is at least a fringe of the stock-breeding industry is appreciated, but it would be a lot better for the whole country if the livestock breeders took time out to get at the bottom of causes, of which tick eradication in Dixie is but one of many examples.

## Tested According to Plans: Pullorum Disease

"Farmer's Wife" writes to Hoard's Dairyman that she has been twice gypped with chicks bought from accredited hatcheries, certified as pullorum-free. The first time the hatcheryman contended that the chicks had brooder pneumonia but the next time, says the correspondent, "I sent some to Madison and some to a laboratory in Iowa, so I am not so easily fooled. Our veterinarian says that with present methods of blood testing, the hatcherymen can't begin to do a thorough job. They send out incompetent youngsters months before they begin to buy eggs, test only once, and then call the flocks blood-tested."

## Refrigeration Kills Parasites in Meat

Trichinae along with other parasites nesting in meat six inches thick are killed by exposure to 20 F. for 20 days, or to 10 F. for six days, according to information released by the U. S. Bureau of Animal Industry. Thicker pieces may be made safe by exposure of longer duration. The Bureau warns against misjudging the temperatures of storage plants and lockers.

# SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

## Twin Mule Foals: A Rare Event

On April 20, 1942, a pair of mule foals was born on a ranch near Billings, Montana. The owner is Peter Yegen, Jr., "The Insurance Man," of Billings, who in addition to providing insurance, surety bonds, and loans, conducts a not unpretentious ranch as the background of our picture attests.

The sire of this famous pair is a Mammouth jack and the dam is a mare of the work-horse type, named *Goofey*, on account of her unruly habits. The foals are male and female which Mr. Yegen has named *Jeep* and *Peep*, respectively. Being quite a weakling, *Peep* required a great deal of nursing for survival, the letter of transmittal declares. But happily, *Goofey*—maternal instinct will out — graciously changed to a docile, friendly horse in payment for the attention given to her helpless offspring.

The trio—*mére et enfants*—were feature attractions at the Midland Empire Fair and at almost all hours visitors appear at the ranch to see this exhibit of hybridization of genus Equus. Writes Mr. Yegen: "We plan to break these twins to drive this fall."

For this unique report we are indebted to N. B. Smith (O.S.U. '93). Viable twins in the family Equidæ are rare. Among the *caballus-asinus* hybrids, so far as we know, they are as rare as wisdom teeth in the barnyard hen. The profession will thank Dr. Smith for his thoughtfulness in having this event placed on record.

—Photo by Peter Yegen, Jr., 1942

Fig. 1—Twin Mule Foals Born to a Mare in Montana

[Since this article was printed a parallel incident (*Norden News*, September-October, 1942) occurred at Bainridge, Ohio, reported by Dr. L. K. Benner.—Ed.]

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The war has made New York City the fur center of the world, instead of London.

# Dysfunction of the Ovary

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STERILITY in our domestic animals is one of the major problems challenging our profession. Its importance seems to parallel the advancements that have taken place in scientific breeding and feeding. Infertility is of economic importance in all classes of livestock, especially dairy cows. The lifetime of the average dairy cow does not exceed four and one-half years; hence, maximum production is never reached. Many factors are capable of interfering with the sex life of a dairy cow. In a group of cows in the same herd a number of detrimental agents may be operating at the same time. This fact adds to the difficulty of solving the problem but it is not particularly discouraging if the situation is handled on a herd basis.

Barrenness, whether permanent or temporary, is usually the result of pathological changes which have taken place in the organs of reproduction caused by an infection which may or may not be specific. Factors other than microörganisms are capable of interfering with breeding efficiency. Faulty diet or a generally improper herd management are likewise contributing causes. Conception and the production of a fetus are the result of a chain of events, many of which are of endocrine origin. Sterility will result if a breakdown occurs anywhere in the process.

Our knowledge of nutrition and the physiology of reproduction have been greatly advanced in recent years by research in many fields of biology, although it needs still further clarification. The literature on the subject is voluminous; it is regrettable that most of it pertains to small laboratory animals, since its application to large animals is indirect. The advancement in the basic biological sciences are of tremendous interest and should be of concern to us who practice veterinary medicine. There are at least three important biological characteristics that we must consider when dealing with dairy cattle in health and disease: (1) proper nutrition, (2) ability to assimilate food, and (3) reproduction. This paper emphasizes the last named, *i.e.*, reproduction.

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## RELATIONSHIP OF NUTRITION TO REPRODUCTION

Much data have been recorded on the effect of diet upon the normal function of the reproductive organs, but more work is needed to give a better concept of the relationship between nutrients and fertility.

Hammond[1] states that increasing nutrition is attended by greater fertility than a stationary or a lowering state of nutrition. The well-known flushing of sheep is practiced in almost all sheep-raising countries.

Briggs[2] observed after eight years of study that flushing, maintenance or submaintenance ration during the breeding season had no consistent effect upon the fertility of ewes.

Theiler[3] found that in years of drought the vegetation does not contain sufficient phosphorous, and as a result many sheep and cows do not come in heat. In these cases, the inorganic phosphorus is greatly reduced.

Eckles-Becker and Palmer[4] stated that reduced fertility occurs in cows fed on nutrients raised on phosphorus deficient soil.

Palmer, Gullickson, Boyd, Fitch[5], in an experimental group of cattle fed on nutrients low in phosphorus and protein, noted that ovulation was regular as shown by frequent palpation of the reproductive organs.

Ward[6], from his records, could not find a relationship between naturally high producing cows and the incident of disease or that high production of itself increased a cow's susceptibility to disease. Eckles[7] made similar observations. For Loeb[8], underfeeding of normal rations produced hypotrophy of the ovaries of guinea pigs.

Quinlan[9] noted that heifers of the beef breeds, and dairy heifers as well, kept in a state of high condition over a long period commonly evidenced functional sterility. W. L. Boyd speaks of the same condition in show heifers.

During the fall and winter of 1937-38

we had a group of 12 heifers which we intended to breed in November. They came from pasture in good condition. In the dry lot, they were given the usual grain mixture; bean hay was used as the roughage. Neither external nor internal signs of heat were evident during that period. Rectal palpation revealed nonfunctioning ovaries. During the latter part of February, we changed the hay from bean hay to alfalfa on six of the heifers. They came in heat within three weeks, were bred, and they conceived. Unfortunately, as our supply of bean hay became exhausted about this time, the remaining heifers were given alfalfa. They too became normal. We have fed bean hay before and have fed it since and never have had a similar response. Our ration was botanically adequate, but apparently chemically inadequate. Every practitioner has had cases in which he could find nothing abnormal about a cow yet she failed to conceive even when the ration was botanically adequate. When the cow was permitted to graze on pasture during the spring she became normal and conceived. What chemicals were missing when fed in the dry lot is not known. We do know, however, that she received additional hormones in the grasses.

### AMBISEXUALITY OF THE GONADS

During the embryological development of the gonads in birds and mammals there is a definite tendency toward a bisexual organization. The first set of sex cords which constitutes the primitive medulla of the ovary is the equivalent of the semniferous tubules of the male. The functional cortex is female. In some mammals, the gonads of the male have for a short time a group of cells which resemble the cortex of the female. Therefore, every animal is potentially both male and female sometime during development. However, the sex is determined at the time of fertilization by the sex chromosomes. During the period of transition of the gonads into ovaries or testicles, the conditioned sex ducts undergo development and those of the opposite sex become vestigal.[10, 11, 13] Further evidence of biphasic tendency is that the hormones are not sex specific, with the possible exception of progesterone. Therefore, it is impossible to define sex. In the last analysis, it is two individual forms with different kinds of gametes. The probability is that no male is 100 per cent male nor any female 100 per cent female.

### REPRODUCTION

A brief discussion of the possible effects of some of the secretions produced by the ductless glands will emphasize the interrelationship between the uterine, ovarian and pituitary cycles.

*Secretions* are substances sensitized in the glands which escape into the circulation. There are two general types of secretion: (1) secretions poured out into the digestive tract, and (2) secretions that flow into the lymph channels and blood stream to excite other organs.

Many of these secretions are specific. Hormones of the gonads secrete chemical substances and act on specific end organs and excite them to activity. Under certain conditions it may depress them. The response, whether excitement or depression, is not immediate. It is never a matter of seconds such as nerve stimulation. Hormones are like drugs in many respects in that small doses stimulate and larger doses suppress.

*Excretions* are usually considered waste products which have been separated from the blood or perhaps other tissues. Among the excretions in the urine are hormones.

### PITUITARY GLAND

The early embryologist regarded the pituitary gland as vestigal and of no particular importance. Investigation of the gland began with Rathkes' work in 1838. Through the years which have followed with the introduction of the microscope, the gland has been the object of much research. It is now regarded as the key gland in the endocrine axis.[14] Through its chemical messengers the pituitary gland appears to contact nearly all the physiological processes of the body. The growth processes,

the ovarian and testicular activity, seem to be completely under its control. It has been credited with secreting many chemicals essential to perfect genital health.

The full sexual development in both sexes is dependent upon pituitary hormones which stimulate the follicular apparatus of the ovary although the relationship of the testicle to the anterior pituitary hormones do not have exactly the same correlation. In all animals, the pituitary is active after the termination of sexual activity. In fact, there is a hyperactivity of the anterior pituitary when the reproductive organs become dormant.

### OVARIES

The ovaries are divided into three parts: follicle, interstitial tissue, and the corpus lutem. The primary follicles of the ovary are not dependent upon hormones for their growth.[12] Nor are they vesicular. The weight of the ovary in a general way follows the vesicular percentage. Diameter of the larger follicles increase up to the time of estrus and ovulation. The viscosity of the liquor changes prior to ovulation and a preovulatory swelling takes place. There is an increased vasculation and a thin area occurs in the wall which finally bulges out as a result of internal pressure. The germ hill breaks loose, other progressive changes are taking place, blood cells pass into the stroma and the membrane wall breaks down. Rupture of the follicles is a gradual physiological process.

The estrogens seem to be of two or more sorts: One complete, the other incomplete; one being produced by the granulosa cells and the other by the theca cells.[18] It may be possible for one to produce an estrus uterus, the other provoke sex desire. All clinicians have seen cows in heat that had no desire to mate. If such an animal is artificially inseminated, conception will occur. On the other hand, we have seen cows which are amply prepared for sexual intercourse but the uterus does not respond to estrogenic influences. At the next heat period it may respond in every particular and conceive if bred.

### CORPUS LUTEUM

The corpus luteum is a glandular tissue which develops at the site of the ruptured follicle. Before this new gland is formed corporin is being secreted, probably by the same cells which formerly secreted estrogenic substances; apparently specific cells may respond in accordance to specific conditioning factors.[12] During its development there is often a lymph-like liquid existing in the crater of the ruptured follicle which probably contains estrin. In addition there may be a varying amount of blood present.

In two clinical cases and in one case seen in the abattoir, the amount of blood which escaped exceeded physiological limits. Large hematomas were formed and the ovaries became attached to the adjacent structures in the abdominal cavity.

Hormones of the corpus luteum are as follows: corporin, relaxin (Rodents)[12], substance which inhibits uterine contractions, and androgenic substances.[19]

The corpus luteum hormones quiet the uterus after it has been acted upon by estrin and exercises an inhibitory influence on estrus and ovulation. Under normal physiological conditions, it prevents an interruption in the gestation period in most mammals. Following the rupture of the Graffian follicle, corporin causes changes in the cells of the glands of the uterus, thickens the glandular mucosa and enhances the storage of glycogen and increases the blood supply.[12]

*Corporin* has the ability to suppress the action of estrin when a sufficient amount is present. Just what effect it has on estrin is not definitely known. It has been shown that there is an increase in estrin in the urine when corporin is present. *Relaxin* is found in rodents. Its function is to prepare the tissues of the body for parturition. In the large mammals, this response is produced by estrin. Relaxin cannot cause a positive response except in the presence of estrin.[12]

The life of the corpus luteum is prolonged as follows: (1) Lactation prolongs the life of the gland. It is well known that cows suckling calves may fail to show heat pe-

riods. (2) Removal of the uterus.[20] It is known that the uterus contains a hormone which has an influence on the ovary. (3) Abnormal amounts of fluid in the uterus. (4) Pregnancy in most mammals. (5) Unknown factors.

Retention of the corpus luteum is generally regarded as one of the most common causes of temporary sterility. We are inclined as clinicians to assume that a cow is not coming in heat when she does not manifest a sex urge, while as a matter of fact the reproductive organs may be amply prepared for impregnation at regular intervals but the external signs of heat are not present. The manual expression of the gland may in 3 to 10 days cause a fully expressed heat period. Yet, on the other hand, the response may be incomplete. The cow may show only external signs of heat and the reproductive organs are not fully prepared for conception. In other cases the genital apparatus is prepared, but libido is not present.

*Interstitial Tissue.*—What part the interstitial cells play in the physiology of the ovary is not clear. It is known that the tissue is a source of estrogenic hormones.

## Symptoms of Disease Follicles

Distrubances which arise within the ovarian tissue are usually manifested by abnormal heat periods. By rectal palpation, one may find follicles not sufficiently developed or follicles which are over-developed. This accounts for the typoestrinism or hyperestrinism, whichever the case may be. In cases of hypoestrinism, massage of the uterus and ovaries seems to afford ample stimulant to the reproductive tract. In many instances, small doses of crude ovarian stimulating hormones should prove to be of service.

Some cows which appear well nourished as well as debilitated cows may show heat periods every 12 to 15 days. These animals, if bred, do not conceive although the reproductive organs appear normal. In these cases corporin has been neutralized. It takes about two and one-half RBU of corporin to equal 20-25 units of estrin. Several hundred units of estrin are required to defeat the development of the corpus luteum[12]. If the new developing follicles are ruptured and the corpus luteum expressed, the regulatory forces of the ovaries are often reëstablished and the cow becomes normal.

Chronic estrus (nymphomania) is a glandular disturbance occurring in all animals. The disease has not been sufficiently studied by pathologists and endocrinologists to warrant a definite statement regarding the changes which take place during this disease.

Pfliffer[28] implanted testes into new born female rats which led to continuous estrus which was maintained after the grafts were removed.

Spontaneous occurrence of persistent estrus was reported to have occurred in a colony of segregated female rats.[24] The condition became well established in more than 50 per cent of the animals. The follicles were capable of ovulating and luteinizing if the animals were given sheep anterior pituitary extract.

In making a comparison of the chronic estrus in rats with cattle the evidence is on an indirect basis. The factors which condition a cow for the development of chronic estrus are not known. Williams[25] has observed the disease in calves 6 to 8 months of age as well as older animals. Numerous observers have attributed heavy feeding as a conditioning factor. Here the question arises what constitutes heavy feeding. In our own cattle the disease does not occur frequently, and the cases as a rule are not particularly alarming. We feed a ration containing 14-15 per cent protein with a good grade of alfalfa hay. A number of these herds produce up to 500 and more pounds of fat per year. Occasionally, it occurs in cows in which the reproductive organs appear normal, the estrus cycle regular, but following the service of the bull the heat periods become continuous. It follows in the wake of some cases of metritis as well as appearing within a few days following parturition. In our herds,

these cases which occur shortly after parturition are not alarming.

During the progress of the disease, changes take place in the pelvic ligaments and other pelvic structures. These changes are apparently the same as those which take place in a pregnant cow although in many instances in an exaggerated form. The sex desire may be intense in some cases; in others, extremely mild or entirely lacking. In the pregnant cow, these changes are directly under the influence of estrogenic substances.

The daily administration of estrin will stimulate the uterus for a considerable period, after which metoplasia sets in with decreased vascularity and a diminishing motility of the muscles.[26] In addition, an alteration in the normal pattern has been observed by a cystic grandular hyperplasia of the endometrium in rats,[27] and we have observed it in cattle. Male secondary sex characters, which are frequently present, suggest that the animal is being subjected to an unusual amount of adrogenic substances.

Latteur[30] distinguishes the following four types of nymphomania: (1) Psychic, caused by continued proximity to the male. (2) Hypo B, associated with hypoluteumism in which the periods of heat are too frequent and too prolonged. (3) Hyper A, associated with a hyperfollicular syndrome in which cysts are present as well as vagatonia. (4) Hyper A, associated with a hyperthyroid condition which also exhibits cysts but in which the general condition, because of the hyperthyroidism, is much more serious.

He treated, with pineal extract, one cow and two mares of the psychic types, one mare of the hypo B type and six mares and five cows of the hyperfollicular type. Excellent results were obtained and he concluded that pineal extract is both efficient and safe in treating all types of nymphomania. The cysts were not ruptured in the cases treated with pineal extracts; however, they disappeared promptly.

Latteur was unable to cure the hyperthyroid type with the pineal extract. This was treated by the removal of the thyroid. This is an extremely interesting observation but, like many other remedies, needs further verification.

Prof. Frie[30] classifies chronic estrus as: (1) that occurring with ovarian cysts; (2) that occurring without ovarian cysts; (3) that incurable by ovariotomy and therefore of extra-genital origin; and (4) that form characterized by abnormally long estral periods occurring at regular or irregular intervals.

Another possible cause of nymphomania is a dysfunction of the pineal body which is physiologically autogenistic to the auterior pituitary gland.

*Treatment.*—Our interest now centers on treatment. Spicer[31] treated six cows, and in addition to breaking down the cysts, he gave them potassium iodide, selecting this drug on the assumption that it has some action on all gland tissue. Five of the cows were cured. The symptom of chronic estrus disappeared very quickly under this treatment. One feature, of the treatment is that the walls of the cyst become very tough, and, therefore, are difficult to rupture. The first cow treated has since had four calves but on again showing symptoms of chronic estrus, they were quickly relieved by the administration of potassium iodide. The administration of the drug alone is not sufficient; the cyst must be broken down.

Williams[25] used whole ovarian extract, of the corpus luteum, adrenalin and pituitary extract in a number of cases but did not have outstanding success with any of them. Frequent rupturing of the cysts is the best known method of treatment.

Long and Evans[32] in 1922 discovered that follicles could be luteinized by the administration of a crude pituitary extract. Portman[33] cites 13 cases in cattle in which he used an auterior pituitary hormone in conjunction with rupturing the cysts, with results similar to those obtained by simple rupturing of the cysts.

We find that benefits have been derived from crude auterior pituitary extract in

many cases. This treatment seems to be worthy of further trials.

### CASE REPORTS

*Cow, age 6 years.* History incomplete; high butterfat record. Treated for chronic estrus as a 3-year-old, conceived and bore a healthy bull calf. Shortly after calving she again became continuously in heat, the symptoms lasting for the greater part of one year. Presumably, the cysts were ruptured frequently during this period, although complete information is unavailable. The only treatment used was to rupture cysts and administer 10 cc. of crude anterior pituitary extract intravenously. The heat periods became normal. She was bred and conceived but aborted a 3-month fetus. Following the abortion, the heat periods remained normal. She was bred and conceived at the first service, again she aborted at eight months. She was positive to *Brucella abortus*.

*Cow, age 13 years.* Last calf Feb. 17, 1939; first heat period following parturition June 12, 1939. Succeeding heat periods were normal. From January to April 14, 1940, she did not show heat periods, after which time she showed continuous heat. August 12 she was given 5 cc. of crude anterior pituitary extract. September 30 small cysts were present in both ovaries. Thirty cc. of pregnant mares serum was administered intravenously, and heat periods became normal. Bred March 5 and became pregnant.

*Cow, age 8 years.* Last calf, Dec. 7, 1939. Following parturition heat periods were normal, reproductive organs seemed normal as determined by clinical examination. She was bred three times and did not conceive. Aug. 5, 1940 both ovaries were cystic and was in heat continuously. Oct. 10, 1940 she was given 15 cc. pregnant mare's serum intravenously. Bred Dec. 11, 1940 and conceived.

*Cow, age 5 years.* Last calf March 31, 1939; heat period normal following parturition. June 1, 1939 clinical examination indicated the cow was ready to breed. August, 1939 chronic estrus, cysts were large—dense capsule. September, pineal extract was administered subcutaneously with no improvement. There was no improvement from doses of anterior pituitary extract in November, January and April.

*Cow, age 5 years.* Last calf Nov. 23, 1940; heat periods were normal following parturition. Bred Feb. 28, 1941. Immediately following coitus the heat periods became continuous. May 2, 1941, 10 cc. of crude anterior pituitary hormones were given intravenously. Heat periods became normal. Bred August 4, and conceived.

*Cow, age 8 years.* Last calf August, 1940. Did not show heat periods following parturition. November 25 expressed corpus luteum, right ovary. Following the expression, the estrus period became continuous. December 25, when she was given 10 cc. of crude anterior pituitary extract, the heat period became normal. Bred April 15, and conceived.

*Cow, age 8 years.* Last calf Dec. 28, 1940; heat periods were normal following parturition. Bred March 12, 1941. Following coitus heat periods became continuous. July 3, she was given 10 cc. of crude anterior pituitary extract intravenously. Heat periods became normal at once.

*Cow, age 7 years.* Last calf October 1940; became continuously in heat in November and December. On December 25, she was given 10 cc. crude anterior pituitary extract intravenously. Heat periods became normal. Bred May 27, 1941 and conceived.

*Cow, age 7 years.* Last calf March 13, 1939. Heat periods were normal following parturition. She was bred July 8, again September 24 and December 15. Following the last breeding she showed continuous heat period. On February 18 she was given 10 cc. crude anterior pituitary extract intravenously. Heat periods became normal. Bred on April 18 and conceived.

*Cow, age 7 years.* Last calf May, 1940; heat periods normal following parturition. Bred October 24. Heat became continuous. November 25 she was given 10 cc. of crude anterior pituitary extract intravenously. Heat periods become normal. Bred February 2 and conceived.

*Cow, age 7 years.* Last calf Oct. 19, 1940. Bred Feb. 23, 1941. Following service the heat periods became continuous. Apr. 1, 1941, 10 cc. crude anterior pituitary extract was administered intravenously; heat periods became normal. Bred July 1, 1941.

*Cow, age 6 years.* Last calf, July, 1940; heat periods regular; bred 5 times, failed to conceive. March 1941 heat periods continuous. In April she was given 10 cc. crude anterior pituitary extract intravenously. On May 15, 1941 both ovaries cystic. Butchered.

*Cow, age 5 years.* Last calf Sept. 2, 1940; heat periods were normal following parturition. Bred December 4, failed to conceive and a corpus luteum was removed Feb. 4, 1941. Following the removal, heat periods became continuous. April 17 she was given 10 cc. of crude anterior pituitary extract, after which the heat periods became normal. Bred June 6, 1941 and conceived.

### SUMMARY

1) Bovine sterility, due to disturbances of the various factors other than infection, is of primary importance from an economic viewpoint as well as of academic interest.

2) There are a large number of factors which interfere with reproduction. As some

of these factors are not understood, there is difficulty planning scientific treatment and control.

3) Temporary or permanent sterility is most frequently caused by pathological changes in the various segments of the reproductive tract due to specific or nonspecific infections.

4) Endocrinology affords a basis for explaining both normal function and dysfunction of the whole reproductive tract. We realize it is a comparatively new science and occasionally the literature is conflicting.

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## Among the Implements of World War II

Stepping up the food - for - freedom program fell heavily upon the Middlewest when the needs in hog production was set at 100,000,000 head, for 1942. "Good Year" is the way the well-known tire company of that name placards this picture in its advertisements.

# CLINICAL DATA

A toxic principle found in the eggs of the wood tick *(Dermacentor andersoni)* by Steinhaus of the U. S. Public Health Service may be the active cause of tick paralysis.

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Hearts removed from embryo chicks are now used *in vitro* to test digitalis preparations. The chick-embryo assay is said to be more accurate than the human, cat or frog methods. The new test was developed at the New York University Medical School.

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Pharmacologists describe aspirin as an analgesic, antipyretic and antirheumatic. In these rôles aspirin, because it is gentle to the stomach, rates higher than the other derivatives of salicylic acid. Only the air-raid wardens rate aspirin among the sleeping powders.

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The sulfonamide drugs now famous for their antiseptic properties, will no doubt be scheduled among the great discoveries of medical science, but, the drug that can master parasitic germs without harming the host in some degree remains to be found. Paul Erhlich's dream has but partly come true.

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The words "niacin" and "niacin amide" have replaced "nicotinic acid," and "nicotinic acid amide" because some people might mistake these for their counterparts found in tobacco. Yet, no one has proved that these ingredients of tobacco may not have something to do in giving tobacco its world-wide popularity. The span of life seems to have increased since tobacco came into general use.

Hens fed vitamin-E-deficient diet continue to lay eggs but the eggs do not hatch. Vitamin-E deficiency also depresses the viability of the chicks.—*J. Earle Galloway in Iowa Veterinatrian.*

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On account of the swift action of synthetic anti-bleeding vitamin K given hypodermically, fatal hemorrhages have now become rare accidents of surgery when the precaution was taken to give it two hours before operating. *Science, Nov. 14, 1941, p. 12.*

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"Vitamin Racket" is the title of an article in the September-October issue of *Iowa Veterinarian;* yet in reading what the author has to say concerning the essentiality of vitamins—natural and synthetic—it seems to be a pretty fortunate "racket," for man and animals.

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The transplacental passage of the virus of equine infectious anemia (swamp fever) was established by the experimental work of Stein and Muth, of the Pathological Division, U. S. Bureau of Animal Industry. These workers also demonstrated that the disease can be transmitted from mare to stallion and *vice versa* in coition.

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Experiments with ants as carriers of disease have shown that this supposedly harmless insect can leave a trail of dysentery germs in its wake. Dr. Sophie Deller Griffith, School of Tropical Medicine, San Juan, Puerto Rico, announces that ants in the sugar bowl are no less harmful than flies and cockroaches in the spreading of dysentery.—*From Science News Letter.*

# Where the Dollars Go

Oh where, oh where has the little dollar gone? is often a perturbing question when bookkeeping is not done systematically for income-tax purposes. The bookkeeping at this hospital is not complicated. The check book stubs are the receipt book. Each month the amount of each check is entered into a monthly statement having the same heads as shown on the table. [Except that the "items column" runs across the page horizontally instead of vertically.—Ed.] Twelve pages make up the year's report. On the thirteenth page, by placing the names of the months in an extra vertical column and entering the monthly totals in the other columns, one has a one-page, yearly operating expense chart which tells where the dollars go. A copy of this sheet is submitted with the income-tax return. It makes a simple method of accounting.

The percentage chart is computed by taking the totals of each column, multiplying by 100, and then dividing by the gross income figure.

Regarding the particular items, the advertising and printing are somewhat confused. A little book is published annually and sent to clients. For 1935 and 1936 this appears under advertising and for the other years it was entered under printing.—*George S. Glover, D.V.M., Los Angeles, Calif.*

The figures in this table are percentages.

| Items | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 |
|---|---|---|---|---|---|---|---|---|
| Telephone | 2.90 | 1.85 | 1.09 | 0.72 | 0.64 | 0.70 | 0.68 | 0.65 |
| Water & Light | 1.15 | 0.91 | 0.98 | 0.91 | 1.11 | 0.88 | 0.36 | 0.99 |
| Gas & Heat | 0.45 | 0.45 | 0.38 | 0.48 | 0.36 | 0.48 | 0.32 | 0.35 |
| Auto | 3.61 | 8.45 | 1.94 | 2.74 | 3.37 | 0.88 | 0.99 | 2.42 |
| Taxes & Licenses | 3.20 | 3.29 | 2.90 | 4.18 | 5.19 | 5.77 | 5.36 | 11.64 |
| Office | 1.80 | 0.94 | 0.83 | 0.79 | 1.59 | 0.91 | 1.04 | 0.67 |
| Hospital | 3.33 | 2.57 | 4.01 | 3.03 | 4.97 | 2.27 | 3.76 | 2.48 |
| Drugs | 7.08 | 6.27 | 6.81 | 5.55 | 6.28 | 5.06 | 6.39 | 5.83 |
| Printing | 3.64 | 1.88 | 2.41 | 2.72 | 2.60 | 2.27 | 2.73 | 2.76 |
| Advertising | 3.72 | 6.08 | 5.08 | 1.67 | 2.48 | 1.89 | 0.95 | 0.39 |
| Salaries | 16.75 | 22.35 | 27.40 | 25.95 | 26.00 | 25.03 | 27.85 | 33.59 |
| Insurance | 1.86 | 2.86 | 2.56 | 2.30 | 1.11 | 1.43 | 1.13 | 0.75 |
| Laundry | 0.44 | 1.08 | 1.01 | 0.90 | 0.77 | 0.59 | 0.55 | * |
| Dog Feed | 4.46 | 4.09 | 2.00 | 3.24 | 3.49 | 3.45 | 2.56 | 2.96 |
| Horse Feed | ... | 7.82 | 1.85 | 2.08 | 1.57 | 2.00 | 1.71 | 1.39 |
| Stable Expense | ... | ... | ... | ... | 0.83 | 0.96 | 1.01 | 1.93 |
| Kennel Expense | 1.05 | 1.70 | 1.19 | 3.33 | 3.07 | 0.85 | 0.24 | 0.72 |
| Miscellaneous | 3.78 | ... | 4.91 | 2.80 | 4.44 | 3.42 | 2.14 | ... |
| Net Income | 42.18 | 33.41 | 30.65 | 36.71 | 30.01 | 40.28 | 39.73 | 31.48 |
| Operating Expense | 57.82 | 66.59 | 69.35 | 63.29 | 69.99 | 59.72 | 60.27 | 68.52 |
| Number of Cases | 3467 | 4468 | 6074 | 6686 | 7188 | 7689 | 9544 | 10137 |

* *Bought a washing machine.*

## Infantile Paralysis Fund

Nearly four million dollars ($3,908,310) were collected for the study and control of poliomyelitis during the celebration of the President's birthday in January. One half of this amount goes to the National Foundation for Infantile Paralysis for clinical and laboratory research, educational work and epidemic aid. The other half remains in the states and counties wherein the funds were collected. The states contributing most, named on a descending scale were New York, California, Pennsylvania, Illinois and Ohio.

# Listerellosis in a Goat

REBECCA GIFFORD, D.V.M., and D. F. EVELETH, D.V.M.
*Fayetteville, Arkansas*

To most veterinary practitioners listerellosis is now a familar nervous and infectious disease of cattle, sheep, swine, foxes, rodents, birds, and even man. It was not until 1926, however, that Murray, Webb, and Swann[1] isolated from laboratory rabbits and guinea pigs a specific organism which they named *Bacterium monogytongenes*. Five years elapsed before Gill[2] reported that "circling disease" of sheep was caused by an invasion of bacteria similar to the rodent variety described by Murray *et al.* By that time the organisms had received their present name of *Listerella* (*Listeria*) *monocytogenes*. Since then, increasingly numerous outbreaks of listerellosis have been observed in the United States as well as in other countries. An article by Graham, Hester, and Levine[3] includes an excellent biblography that serves to outline the brief history of listerellosis up to this time.

Listerellosis has been most often reported in sheep, but rarely in goats. It should not be overlooked, however, that the Listerella organisms have been isolated from goats. A caprine Listerella culture studied by Julianelle and Pons[4] was furnished by C. V. Seastone, but no mention was made of the region where the goat was obtained. In 1940, King[5] discussed the pathology of Listerella-infected goats found in New Jersey by TenBroeck and Seastone in 1936. Olafson[6] described "circling disease" in cattle, sheep, and goats in New York. One of the unique characteristics of the disease is its sporadic occurrence in widely separated regions and in varied species of animals. For this reason it was thought that a case reported from a new area might be of some interest.

History

In early March, 1942, a herd of 220 Angora goats from various sources was assembled on a farm in northwestern Arkansas. It was impossible to discover whether these animals had been picked from healthy herds or from exactly what part of the state they had come. The goats were kept in a small pasture for a few days after their arrival so that they could be easily caught for worm treatment. About the second day after the herd had been brought to the farm one of the goats began to behave in a peculiar fashion. It was a young castrate, in fair condition. The first symptom noticed by the herdsman was that the goat could not get up, and that its head was cramped around permanently to the left side. Apparently, it did not see well, nor have full control of its mental powers. It lay on its right side frequently struggling with all four legs. There was no nasal nor ocular discharge. The owner had tried to drench it with lard and "salts," but the goat could not swallow. "Circling"

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Research Paper Journal series, University of Arkansas. Published with the approval of the Director of the Arkansas Agricultural Experiment Station.

Department of Bacteriology and Veterinary Science, University of Arkansas, Fayetteville, Arkansas. Dr. Gifford is now instructor of bacteriology, University of Connecticut.

[1]A Disease of Rabbits Characterized by a Large Mononuclear Leucocytosis, Caused by a Hitherto Undescribed Bacillus *Bacterium monocytogenes* (n. sp.) *Jour. Path. and Bact.* xxix (1926), pp. 407-439.

[2]Gill, D. A., "Circling Disease" of Sheep in New Zealand. *Vet. Jour.* lxxxvii (1931), pp. 60-74.

[3]Graham, Robert, H. R. Hester, and N. D. Levine: *Listeria (Listerella)* Infections in Domestic Animals. Paper presented at the 58th Annual Meeting of the Ohio State Veterinary Medical Association. January 8, 1941. pp. 1-6.

[4]Julianelle, L. A., and C. A. Pons: Immunological and Serological Reactions of *Listerella monocytogenes*. *Proc. Soc. Exp. Biol. and Med.* xl (1939), pp. 364-365.

[5]King, L. S.: Primary Encephalomyelitis in Goats Associated with *Listerella* Infection. *Am. Jour. Path.* xvi (1940), pp. 467-478.

[6]Olafson, P. *Listerella* encephalitis (circling disease) of Sheep, Cattle, and Goats. *Cornell Veterinarian.* xxx (1940), pp. 141-150.

[7]Seastone, C. V.: Pathogenic Organisms of the Genus *Listerella*. *Jour. Exp. Med.* 62: 203-212. lxii (1935), pp. 203-212.

symptoms had not been observed, probably because the animal was hidden among the rest of the herd in a small enclosure. Listerellosis was suspected. The goat was taken to the laboratory and destroyed for autopsy.

POST-MORTEM FINDINGS

There were few gross tissues changes and no evidence of parasite larvae (*Oestrus ovis*) which could have been responsible for the nervous symptoms. The brain was examined and removed for culturing. Slight meningeal congestion was observed, but its diagnostic significance was not considered important. The gastrointestinal tract appeared normal except for a few worm parasites.

BACTERIOLOGICAL FINDINGS

Generous loopfuls of emulsified brain material were inoculated into broth containing liver tissue. The presence of any growth in the media was doubted even after 48 hours of incubation at 37°, but transfers were made from it to plain nutrient agar slants and to nutrient broth. At least 48 hours of incubation were required before much growth appeared. A few small round, flat, semi-translucent colonies developed on the surface of the slant. The broth became slightly turbid. Subsequent retransfers grew far more quickly and profusely. Good growth was obtained on blood agar in which small zones of hemolysis developed within 24 hours after inoculation. The general appearance of the colonies was similar to that of some known cultures of *L. monocytogenes*.

Microscopic examination of these organisms revealed small gram-positive, plenomorphic rods. Hanging drop preparations showed that the bacteria were quite motile, and that they "tumbled" in the manner described by Seastone.[7] Smears made from later transfers contained some extremely long filaments among the characteristic short rods. At no time were spores observed.

The biochemical properties of these organisms were not studied in detail. Various simple and complex carbohydrates were acidified but no gas was produced. These reactions checked in most instances with those described in the literature. According to most workers, the behavior of Listerella organisms on sugar media is neither constant nor important enough for identification purposes. Litmus milk was decolorized but not coagulated, as outlined in Bergey's Manual of Determinative Bacteriology.[8]

PATHOGENICITY FOR LABORATORY ANIMALS

It was considered that the pathogenicity of the isolated organisms for experimental animals would be the most desirable criterion upon which to base identification. Two rabbits injected intravenously with 24 hour broth cultures of the bacteria died within four days thereafer. Neither rabbit exhibited symptoms of "circling" or other nervous disorder except for a general depression. Both rabbits had small whitish spots on the liver, and small hemorrhages in various other organs. Excessive monocytes were counted in blood smears. The organisms were isolated again from the liver and kidney of one of the rabbits.

Fig. 1. — Torticollis in Tatum goat from which culture was isolated—March 14, 1942.

Guinea pigs were injected in various ways with 24-hour broth cultures. Two guinea pigs, injected intraperitoneally, soon became depressed. They ate little and became quite thin. The number of monocytes in blood smears was abnormally high. One of these guinea pigs was destroyed five days after inoculation, and the original organisms were again isolated from the liver. The other guinea pig began to improve in condition, and the monocytosis disappeared. On autopsy 25 days after the injection the guinea pig had become apparently normal in every respect. Cultures were all negative. Attempts to reproduce the disease with subcutaneous inoculations and by pen contact were not successful.

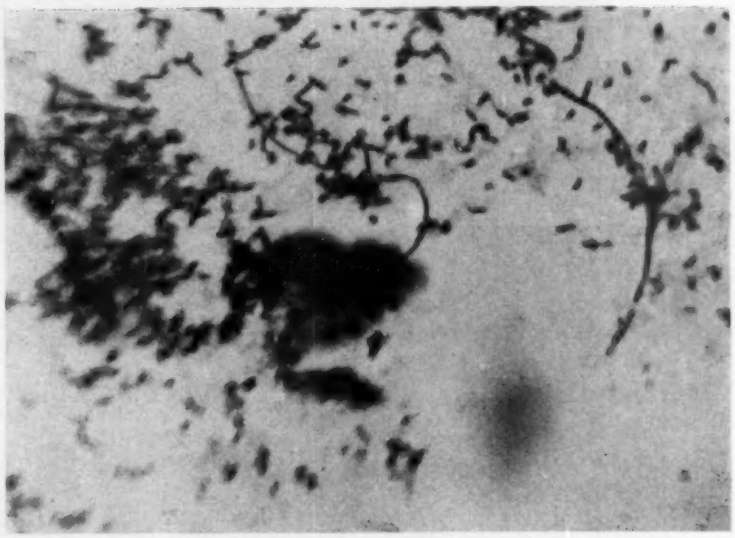


Fig. 2. — Short rods and long filaments in smear of goat Listerella culture.

The test described by Julianelle[9] and Muth and Morrill[10] was also used as an aid in diagnosis. Striking changes were brought about when a drop of a new broth culture was placed gently into the left eye of a guinea pig with a sterile cotton swab. Plain broth was applied to the left eye of another guinea pig in exactly the same fashion. The animals were placed together in a cage. The next day there was no visible change in the eyes, but in 48 hours closure of the eyelids developed at the site of inoculation of the suspected culture. The control guinea pig remained normal. After another day or so, a sticky exudate glued the lids together. Within a week the lids had separated again, revealing that the cornea was so opaque that the pig could not see through it. Twenty days after inoculation the eye appeared almost normal, except for a small corneal scar. After 30 days it was no longer possible to tell the difference between the control and the inoculated guinea pigs. The general health of the inoculated animal was not affected at any time.

Chickens were inoculated both intravenously and intraperitoneally with broth cultures, but there were no signs of disease and the organisms could not be recovered from the visceral organs. Larger animals were not used for further inoculation experiments.

Intracerebral injections were not made in any of these laboratory animals. Since the disease could be produced by intravenous and intraperitoneal routes, it was thought that the use of the more violent intracranial inoculations was unnecessary and impractical. The chances of injuring

[8] *Burgey's Manual of Determinative Bacteriology.* (1939), 5th ed. Baltimore.

[9] Julianelle, L. A. 1941. *Biological and Immunological Studies of Listerella.* Jour. Bact. 42, No. 3: 367-383. xlii (1941), pp. 367-383.

[10] Muth, O. H., and Don Rex Morrill. 1942. An Outbreak of Listerellosis in Oregon Sheep. J.A.V.M.A. c (1942), pp. 242-243.

might produce symptoms similar to those of listerellosis.

the brain are great, even for the experienced operator. Mechanical damage would naturally upset the nervous system and

Two rabbits were injected intraperitoneally with large doses of formol-killed 24-hour broth cultures daily for 16 days. The goat organisms, and one of the Iowa cultures originally isolated from a sheep, were

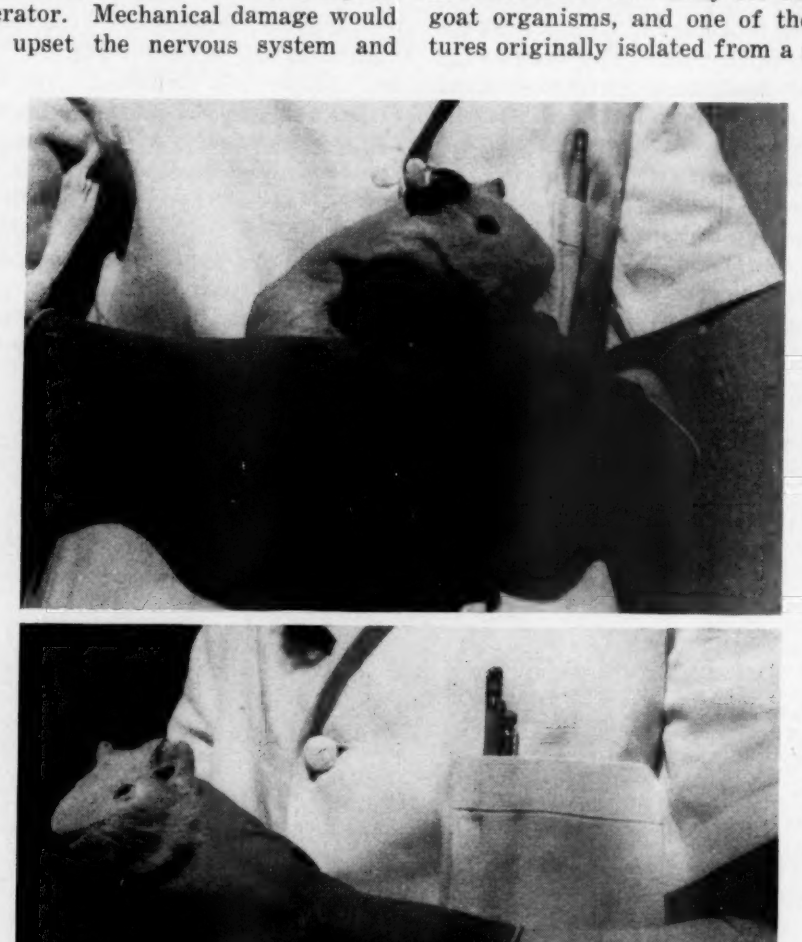


Fig. 3.—Untreated right and left eyes swabbed with Listerella culture.

SERUM REACTIONS

Attempts to bring about agglutination with the serums from some of the guinea pigs described above were not successful. The goat culture, and also three known Listerella cultures kindly sent from Iowa State College,* were used as antigens.

*The cultures were furnished by L. H. Schwarte, Iowa State College.

used for the injections. Agglutination occurred at the end of this period when the rabbit sera were mixed with the respective antigens (24-hour, live, broth cultures).

Identification of the organisms as *L. monocytogenes* was based on the fact that they were isolated from the brain of a goat showing peculiar nervous symptoms. Their cultural, biochemical, and morphological

characteristics were comparable in general to those of known cultures. Their ability to produce monocytosis, conjunctivitis, or death in laboratory animals also suggests strongly that they may be safely called *L. monocytogenes*.

### DISCUSSION

Knowledge of the distribution of the disease, listerellosis, will be of definite value to veterinarians practicing in areas far from laboratory facilities.

During the winter of 1941-42 many feeds have been submitted to this laboratory with a history of having caused animals to die with marked nervous symptoms. It has not been possible to examine any of these animals, but in no case has a feed toxic for guinea pigs been found. We have suspected listerellosis. In this one case a definite diagnosis has been made.

Unfortunately, it has not been possible to obtain any information about the sources of these goats. Of 220 goats purchased in small groups over a considerable area, only one animal exhibited symptoms of listerellosis. No further losses of this sort have been observed in the flock.

The seasonal distribution of listerellosis and its sporadic nature were discussed by Olafson.[6] He does not describe the symptoms as they appeared in goats specifically, but in general he considers the "circling" symptom of diagnostic significance. King[5] makes no mention of "circling" as a symptom in the goats he examined. In the present case this portion of the syndrome was not observed by owner or herdsman. At the time of clinical examination, the animal was moribund and unable to rise.

### SUMMARY

A case of listerellosis or "circling disease" in a goat has been described from northwestern Arkansas. The organisms, known as *Listerella monocytogenes* were isolated from the brain of the goat, and various studies were made. Their morphology, motility, cultural characteristics, biochemical behavior, pathogenicity, and agglutination reactions are outlined in detail. Various aspects of listerellosis in Arkansas are discussed.

## The Cause of Death in Ruminants Held on Their Backs

The fact is generally recognized that when a deep-chested animal is kept on its side or back for over a few hours, often it will die. Fat sheep, for example, often will be found dead after being on their backs for relatively short periods of time.

The belief is current that the cause of death is an accumulation of gas in the rumen, which the animal is unable to eructate. The distended rumen is thought to cause asphyxia by obstructing normal diaphragmatic movements.

In experiments which were carried out for other purposes, Visscher and Petersen[1] had an opportunity to observe the exposed lungs af anesthetized goats while held on their backs for a few hours. They found that the lungs became markedly congested and enlarged, and eventually bloody fluid filled the bronchi and trachea.

Accordingly, experiments were carried out for the purpose of investigating this phenomenon, systematically. Animals were placed on their backs, and the respiratory and heart rates were observed. The animals were electrocuted at the end of the experiment. In all experiments, the respiratory rate was observed to increase markedly after about 30 minutes, while the heart rate did not change appreciably. Three goats were kept on their backs until they died. Eructation was observed to be normal throughout the experiment. The rumen did not become tympanitic. To rule out accumulation of gas completely, however, a trocar was inserted into the rumen and the gas released. This produced no observable effect on respiration. Toward the end of the experiment, the animals had great difficulty in breathing, were in marked distress, and appeared cyanotic. No abnormal abdominal tympany was present at the time of death. Two animals lived about 50 hours, and one lived 20 hours. In the latter animal, the ventral lobes of the lung were found to have preëxisting lung lesions, accounting for the shorter period of survival.

In all three animals, the autopsy revealed

thick, congested, purplish lungs which did not collapse. Both sides of the lungs were involved. The dorsal lobes were more markedly involved than the ventral. The ventral lobes had numerous areas of emphyematous blebs. The right auricular wall showed evidences of congestion. Microscopic section revealed evidence of hemorrhage throughout the lung tissue. Intra-alveolar edema.

*Conclusion*—A goat kept on its back develops pulmonary congestion, alveolar hemorrhage, and interstitial edema which are the causes of death. Sheep kept in this position for short periods develop changes identical with those found in goats held for the same period. Gas in the rumen is not related to the development of this condition. —*Alfred Greeberg, M. B. Visscher, W. E. Petersen, and W. L. Boyd, departments of physiology, animal husbandry, and veterinary medicine, respectively, University of Minnesota.*

Paper No. 2022, Scientific Journal Series, Minnesota Agricultural Experiment Station.

[1]Visscher and Petersen: Unpublished data.

## The Labeling of Anthelmintics

Inasmuch as anthelmintics, as a rule, are toxic in the dose required, the Food and Drug Administration, as of August 21, advises that the following statement be displayed conspicuously in connection with directions for use:

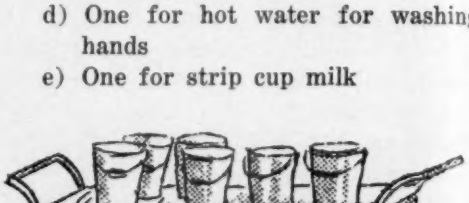
Warning: All known anthelmintics (worm remedies) are more or less toxic to animals. This preparation should not be administered to sick, feverish, physically weak, or undernourished animals unless on the advice of a veterinarian.

This decision was arrived at after extensive correspondence with manufacturers of anthelmintics in which it was pointed out that effective doses cannot be administered safely to animals under all conditions. The Administration defines as misbranded drugs which are dangerous to health when used according to direction, in the absence of a correct diagnosis.

## Mobile Utility Truck for Mastitis Control

To expedite sanitary measures and testing for mastitis, a mobile utility truck provided with the following equipment may be useful:

1) Strip cup and strip cup bucket
2) Enamel buckets:
   a) One containing individual udder towels immersed in a chlorine solution of 200 parts per million
   b) One for used udder towels
   c) One for cold water for immersing teat cups
   d) One for hot water for washing hands
   e) One for strip cup milk



3) Measure for making a solution of 200 and 400 parts of chlorine per million
4) Zinc oxide ointment or other healing ointments
5) Mastitis test materials
6) Daily milk record forms and scales
7) Racks and vials for collecting milk samples
8) Pencils for recording data
9) Hand towels (paper)
10) Container for used paper towels.

Excerpt from a revised copy of the University of Illinois herd program of mastitic prevention and control.

*Therapeutic Notes* (quoting Harkins, 1941) defines shock as "a progressive vasoconstrictive oligemic anoxia," in other words, a damaged tire without enough inside to do the job.

# EDITORIAL

## Veterinary Practice by Druggists

ANY ATTEMPT the drug trade may desire to make to establish closer relations between the veterinarian and druggist is welcome, but coercing druggists to enter the realm of veterinary medicine should be strongly disapproved. The welfare of the country is at stake, and we are satisfied that no group of American professional men engaged in the medical field will ever trade ethics for dollars.

There are two kinds of medical practice. The creed of one is written around *human welfare* and is based upon conventional education. The other is backwash of the social scheme. Its name is quackery. The veterinary profession contends that the United States would rapidly sink to the level of an impotent nation without a fairly competent veterinary service and no one has ever proved the contrary. There is incompetence in the very attempt to do so. The competent will recall how critical investigation of our veterinary meat-inspection reopened European markets for our meat products; how animal tuberculosis was practically exterminated in the United States; how the ravages of hog cholera were suppressed; how a great livestock empire was built up in the South by veterinary research and policing; how an excellent veterinary educational system was built; and how, by these and other tokens too numerous to mention here, the United States became rich and strong, practically self-contained, and recently, a storehouse of food for the United Nations. It may be too far back for the druggist to understand but, from what is known of infectious animal diseases today, it is not exaggeration to assert that the United States would be poor, indeed, had pleuropneumonia of cattle not been mastered and driven away before the turn of the century. The moral of all this is found not in the archives of sordid commercialism but in the records of an altruistic, patriotic profession backed by science.

The notion that all there is to animal production is to keep the bulls and the boars and the rams and the roosters working belongs to another era of this civilization. So does selling livestock remedies to farmers. It should not be necessary to preach this to druggists who get their knowledge and their ethics along with the doctors of veterinary medicine. But it does seem that only veterinarians judge disease as firemen judge flame. To the veterinarian, farm animals are fast-burning tinder. Druggists, like other professionals and industrialists, have thrived because the flames of animal plagues have been subdued by an alert profession trained in the art of fighting disease—not by making every farmer his own stock doctor as the drug trade says it is going to do. Quackery in medicine, human and veterinary, is as old as mankind itself. In wartime it's a magnificent scheme whereby a country's enemies can't lose. If the American druggists sells the country short at so much a vial, his compatriots in the veterinary profession will be disappointed.

We're thinking of J. Morgan Jones (*American Druggist*, July, 1942) who steps out to tell the world that he's not a "mollycoddle" (quoted) but one who has come forward to wield a "big stick" (also quoted) to start druggists in the veterinary business, forthwith. Of the 12,000 animal doctors, the druggists are told, many are engaged with "dogs, cats, etc." (quoted) and "many who were available to the farmers are now

in the Army." In other words, everything is set for the druggist to step in and wreck the doctor's fireside. According to this volunteer (to quote): "Those responsible are the agricultural graduates who know their animals and poultry (obviously not animals) and for many years have administered to them. They learned the technique of administering the necessary medicine." Here, the plot thickens—a conspiracy between the druggist and farm adviser is inferentially proposed, apparently not knowing that the latter has quite a drug store business of his own.

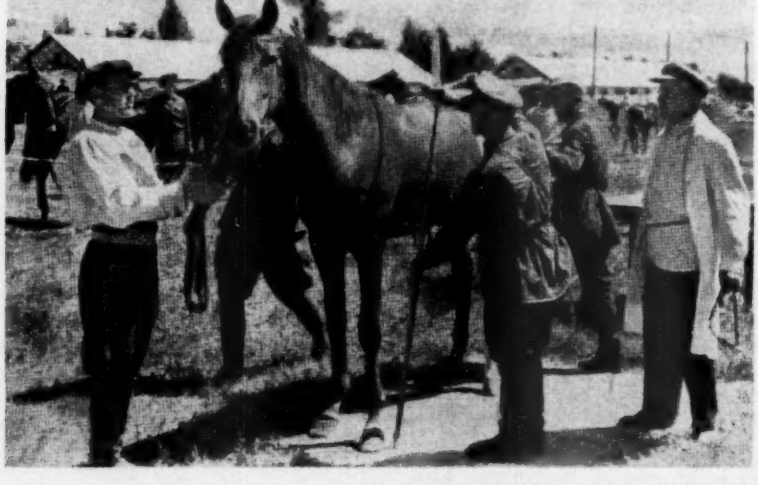
And get this one: State and national associations are "building up restrictive regulations and laws to prevent the stock- and poultry-men and farmers from administering to their own animals." If there is a druggist who is short of livestock remedies, he probably does not read the advertisements in the drug journals, and if there are laws preventing drug stores from stocking up on any of the livestock remedies on the market, it's his own fault. As for the farmer treating his own animals, that too is as free in the United States as sawing cord wood.

True, for the country's sake, the veterinary profession disapproves the scattering of certain disease-producing agents unrestricted, but in controlling that practice we have been failures. Only common sense among farmers and the coöperation of their veterinarians have thus far prevented widespread tragedy resulting from that imperfection of our animal-disease-control system.

While to us the proposed drug-store quackery has the earmark of Hitler-Hirohito propaganda, we'll just call it a money-making scheme with a high potentiality for harm and of no merit.

To the veterinarian, although his service is often roughly handled by the money-makers, there is something sacred about mastering animal disease—the enemy of the people's food. Quacks anger him, and those entering his little kingdom through the back door generally stub their toes. Common sense kicks them out. Diseases of farm animals are a holy terror and the veterinarian's job is to keep them suppressed.

## Horse Purchasing Board of Soviet Russia



*—From National Live Stock Producer*

**Russian officers inspecting horses for the Red Army is a hint on horse usage in the mechanized warfare of the modern army and perhaps the explanation of the tough going the Nazi's encountered.**

## Walter Leon Curtis
### 1886—1942

As this issue of the JOURNAL goes to press, comes the sad announcement of the sudden death of Dr. W. L. Curtis, of Los Angeles, member of the Executive Board of the American Veterinary Medical Association and prominent California practitioner. He passed away from an attack of coronary thrombosis at the home of a client October 11, while making a professional call—a casualty on the line of duty in the midst of an active professional life. Thus, the profession, not only the Pacific Coast but also the whole country lost one of its most popular members and tireless workers.

Quoting former Resident Secretary Tyler: "His devotion to the various veterinary associations was remarkable and their upbuilding one of his chief concerns. No meeting was complete without his presence and he was always engaged in building up membership in local, state, and national organizations. He is entitled to much of the credit for the prosperous conditions of these associations in his adopted state. The profession of California has honored him with every office within its command, the duties of which he always executed with credit to himself and honor to the profession."

Dr. Curtis was an alumnus of Connecticut Agricultural College (1906), Chicago Veterinary College (1908), and New York American (1911). For three years he was associated with H. K. Miller, of New York City. In 1912, he located in Los Angeles as one of the early, small animal practitioners of southern California where he surrounded himself with an imposing clientele and a host of devoted colleagues. Resolutions on the sad bereavement by the Southern California Veterinary Medical Association extol his high technical proficiency, his genial personality, his endearing kindness to his colleagues, and his untiring efforts in behalf of organized veterinary medicine.

The deceased was elected a member of the Executive Board of the American Veterinary Medical Association in 1941 to represent Arizona, California, Canal Zone, Central America, Colorado, Mexico, Nevada, New Mexico, and Utah, the territory known as Executive Board District VI, and the constituency of which he represented at the Indianapolis (1941) and Chicago (1942) conventions.

In the death of Dr. Curtis, the veterinary profession lost an unassuming but proficient practitioner, an advocate of approved ethics, and a tireless worker in the task essayed. He will be missed in the councils of our country's veterinary associations, and by the host of friends with whom he was surrounded.

He is survived by his widow, née Margaret Bradley, to whom the profession extends its most profound sympathy.

## The Brutal Kind of Veterinary Service

The type of service for animals advocated in the literature of the American farm bureaus, compared with the kind that is backed up by the veterinary profession through its journals and its societies, is as different as black and white, as different as kindness and brutality, and, perhaps, as different as victory and defeat for the United States.

The *Farm Bureau Spokesman*, of Iowa, the promotor of the Iowa Farm Bureau Serum Company, in explaining how to go about vaccinating horses against encephalitis, tells its readers to run down to the county seat and get the vaccine for their horses "if production [of horses] *is desired.* As the *value of horses* increases the *desire to protect them* will increase." Just a case of money! The italics are self-inserted.

The policy of farm bureaus, in their medicine-selling agencies, is virtually shrieked in the words of the above quotation, since it proclaims with a screech the difference between altruistic science and egoistic money-grabbing, even as the nation faces a crisis. Disregard for suffering among farm animals, for the health of the people, and for a national resource, is sel-

dom as openly expressed, as a routine policy, in published material.

Thousands of gravely sick horses, exposure of the general population to ever-increasing reservoirs of encephalitis virus, and the property loss to those who need horses perhaps more than the members of the Iowa farm bureaus are not to be considered if vaccinating horses against sleeping sickness *does not pay*, in short, while war-mad nations are invoking the help of science—especially Germany, Russia and England—the American farm bureaus are throwing science to the winds *to make money* regardless of injury to man, animals and public.

But, setting aside the question of profits, the farm bureaus, so far as the policy of its selling agencies is concerned, seem to lack the spirit of human kindness which professional men aim to employ in behalf of suffering animals. Science among the intelligent is exact but never brutal, except in the hands of the selfish, and we never found farmers to be that selfish. Compassion for animals and for their neighbors in need is nowhere more inherent than among farmers. Only their white-collared leaders seem to forget these obligations. Consideration for and kindness to animals is a he-man's emotion, not the emotion of the sissy. Having experienced the thrill of shouldering a pitchfork and joining the threshing or silo-filling gang of his neighbors, this writer speaks from personal observation plus some years with city animals and their owners, and with humane societies without which one wonders how badly animals would fare were money-making to become the rule and guide to their keepers.

The indifference of farm bureau leaders to kindness causes the wholesale suffering among animals which veterinary science is delegated to suppress in behalf of man, animal and posterity. If this seems harsh, think it over, or send us some literature on kindness to animals published by the farm bureaus. The crack of a blacksnake whip on the back of one horse isn't as much of an offense as letting the whole herd suffer the agony of a painful disease because it did not pay to prevent it.

## Abstracts of Food and Nutrition Research

*Biological Abstracts* announces the establishment of a new section, "Specially Assembled Abstracts of Food and Nutrition Research" to be initiated in January, 1943. This section will consist of an assembly and reprinting of all the abstracts contained in *Biological Abstracts* that deal with human and animal nutrition and metabolism, vitamins, diet and diet-deficiency diseases, food composition and values, food processing and food microbiology, beverages, storage and conservation of foods, food spoilage and, in short, all of the biological literature that pertains to foods and nutrition.

In line with the general policies of *Biological Abstracts* every possible effort is being made to insure completeness in coverage of the world's literature. Efforts to obtain abstracts of publications from continental Europe, now mostly unavailable to workers in this country, are continuing. In spite of the great restriction in diffusion of research information, occasioned by the war, journal coverage in *Biological Abstracts* has increased until, at persent, more than 1,700 periodicals in the biological field are being abstracted. The new abstract section will afford a very complete coverage of the world's research literature.

Each volume will consist of ten abstract issues; subscribers will receive the index to the complete edition of *Biological Abstracts*. The subscription price will be six dollars per year (plus 50 cents for postage outside the United States).

Inquiries should be addressed to *Biological Abstracts*, University of Pennsylvania, Philadelphia, Pennsylvania, U. S. A.

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Readers are invited to read with care the article by Lt. Colonel Sam F. Seeley on the disposition of graduate veterinarians in the War. No detail is omitted. It concerns every veterinarian. (See p. 388.)

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Buy Defense Saving Bonds. Someone may have to fight for your freedom of speech, your independence and your economic blessings.

# CURRENT LITERATURE

## ABSTRACTS

### Dubbing Cockerels

Dubbing, or amputation of the comb and wattles, is practiced to prevent these appendages from freezing or causing suffering in extreme cold. Some poultrymen, however, believe that the operation improves body weight, size of the testes, and general vigor. A study of four groups of Leghorn males comprising 147 birds, showed that in so far as body weight was concerned, there was no significant difference between dubbed and undubbed cockerels. In cages, dubbed males gained more weight and produced more semen but these results were not apparent when the birds were kept in pens. In respect to weight, size, yield of semen, and size of the anterior pituitary gland, there was no material difference between the dubbed and undubbed. [*Lamoreux, W. F. and Jones, D. G.: "The Effects of Dubbing White Leghorn Males," Poultry Science, xxi (Sept. 1942), pp. 445-450.*]

### Toxic Principle in Tick Eggs

When a large number of eggs of *Dermacentor andersoni* were inoculated into laboratory animals, toxic symptoms followed by death occurred in two to three days. The toxic principle was filtrable, apparently nondialyzable, and resistant to drying, alcohol and acetone. This was apparently the first time that this phenomenon was demonstrated in that species of tick. The author does not insist, however, that the toxic principle disclosed in the eggs is paralysis caused by *D. andersoni* Stiles. [*Steinhaus, Edward A.: "Note on a Toxic Principle in Eggs of the Tick Dermacentor Andersoni Stiles, Public Health Reports, lvii (Aug. 28, 1942, pp. 1310-1312.*]

### Disease and Milk Shortage

With an increased demand for fluid milk, one wonders if the devastating diseases, mastitis and brucellosis, may not spread faster when the herds are increased in size than heretofore. Dairy, breeding and agricultural circles already know that some rather definite inroads have been made in the productive ability of cattle herds in this country, primarily because of lack of buying cattle subject to test for mastitis and brucellosis. The spread of these two diseases has been tolerated with thousands of dollars lost to cattle owners, largely because of the *laissez faire* attitude. The significance of these diseases has not been brought home to the farmer with a full realization of their effect on his pocketbook. It was only with the coming of a greater demand for milk and beef that owners began to strive zealously for ways and means to increase their herds, only to find that mastitis and Bang's disease have come visibly into the picture. In effect, the situation is not promising in view of failing to put present knowledge into practice. [*Gunderson, N. O., commissioner of health, Rockford, Ill.: "Disease and Milk Shortage," Hoard's Dairyman, lxxxvii (Sept. 10, 1942), p. 261.*]

### Effect of Soybean Meal on Hatchability

The belief that soybean meal has a depressing effect on the hatchability of eggs was disapproved in a study of two flocks of White Leghorn pullets. Test and control mash was fed for four weeks beginning in January, 1942, then reversed for four weeks. Eggs were saved for hatching during the last two weeks on the original stock ration and during the last two weeks of each four-week experimental period. There was no difference between pullets receiving 25 per cent soybean meal and those receiving none, in regard to the hatchability of their eggs. [*Card, L. E. University of Illinois: "The Effect of Soybeans Meal on Hatchability," Poultry Science, xxi (Sept. 1942,) p. 467.*]

### Calculi in Sheep

The main cause of calculi in sheep is dietary. While vitamin A deficiency is a dominant factor, other causes cannot be ruled out: Imbalance of calcium, phosphorus, and magnesium operate in the formation of urinary calculi in sheep. Of 80 steers, experimentally depleted of vitamin A by Newsom in Colorado, only one developed calculi. In sheep, however, the disease generally occurs toward the end of the pasture season when the intake of vitamin A is low and the liver reserve is depleted. Water high in solids, low intake of water, lack of exercise, urinary irritation, bacteria, hot weather, and hyperparathyroidism make up combinations of causes along with the vitamin

deficiency and unfavorable calcium-phosphorus ratios. The development of calculi in sheep fed bran, wheat and cottonseed cake without alfalfa, was stopped when alfalfa was added to the ration (Newsom). In fact, alfalfa may be depended upon as a preventive. The author appends 11 British and American references. [*Beveridge, W.I.B., D.V.Sc.: Urinary Calculi in Sheep—A Short Review of Relevant Literature, Australian Veterinary Journal, xviii (June, 1942), pp. 127-131.*]

## Some History of Fox Breeding

The raising of fur-bearing animals began among the early trappers who fed captured animals until their pelts developed into prime condition or who raised to maturity the red fox pups they dug from their dens. The pelts of black and silver varieties brought fabulous prices.

The birthplace of silver-fox breeding is Prince Edward Island where, in the 1890's, Charles Dalton, a breeder of red foxes, somehow procured two pairs of silver foxes and bred them. He and a partner whom he took on later grew wealthy before the secret source of their prosperity became known. Up to 1914, a pair of silver foxes sold for as much as $34,000 and single pelts brought up to $2,700. When the speculative period ended, a sound industry was established, the industry now known as fur farming. Among the main problems of fox raising are feeding, breeding, sanitation, hookworms, lungworms, ascarids, and encephalitis. Distemper is not mentioned. Although epizoötic encephalitis is properly attributed to a virus the author, obviously in error, refers to the extensive use of a preventive "bacterin." [*Kjar, H. C.: "Fur Farming," Veterinary Student, v(1942), pp. 20, 33, 44.*]

## "Mastocytomas" in Dogs

Neoplasms of the skin and accessory cutaneous structures occur frequently in dogs. They are the most common primary tumors of the domestic dog. Of 49 tumors encountered, five (10.21%) consisted mainly of histogenous cells containing numerous metachromic basophile granules in their cytoplasm. Three of these were benign and two, apparently malignant contained four distinct types of intracytoplasmic bodies. Only four tumors of similar type have been reported in human or veterinary medical literature. Differences (cytologic, tinctorial, distribution, mast cell arrangement) between the various tumors were slight. There were, however, significant differences between the solitary (benign) and the multiple (malignant) types. Materials, methods, macroscopic and microscopic anatomy, and the details justifying the naming of these tumors of dogs "mastocytomas" are described. [*Bloom, Frank, D.V.M.: "Spontaneous Solitary and Multiple Mast Cell Tumors ("Mastocytoma") in Dogs," Archives of Pathology, xxxiii (May, 1942), pp. 661-676.*]

## Cobalt Deficiency in Sheep

It has been shown that "coast disease" in South Australia is caused by deficiency of cobalt and copper. It was found only on the blown shell-sand soil of the coast and on nearby islands. Workers of the Animal Nutrition Laboratory have known of copper deficiency in sheep and they have suspected that cobalt was also insufficient.

The present investigation was to determine whether cobalt deficiency alone may not be the cause of "wasting disease", independent of deficient copper. Evidence was obtained to that effect, since in some instances the intake of copper was sufficient. The observation was classified cobalt deficiency, with enzoötic marasmas of western Australia and "bush sickness" of New Zealand in the same category. Copper deficiency in sheep in Australia is so widespread, however, that in some areas at least, both of these elements may be insufficient. [*McDonald, Ian W., B.Sc., B.V.Sc.: "The Occurrence of Uncomplicated Cobalt Deficiency of Sheep in South Australia," The Australian Veterinary Journal, xviii (June, 1942), pp. 107-115.*]

# BOOK NOTICES

## Food: A Weapon for Victory

The task of feeding the starving European continent at the end of the war is a job equalled only by the war effort itself. Europe from North Cape to Taranto, from Brittany to the Ukraine will be in the grip of famine verging from aggravated malnutrition in the German homeland to outright starvation in countries like Poland and Greece. It is an appalling problem—one which makes the reconstruction problem of World War I seem paltry in comparison. Mr. Fowler ably points out in his new book just off the press that we must act *now*, that we cannot wait until the end of the war to prepare for the gigantic task. Our army of doctors, of food administrators, of benevolent policemen must be ready to march across the boundaries as soon as victory is won. If not, Europe will face a period of utter and uncontrollable anarchy as dark as the reign of Nazism itself.

So what is to be done about it? Mr. Fowler has proposed a master plan which he suggests should be organized at once by the United Nations to carry out this relief. He

has described this master plan in considerable detail. Should such a plan be developed it would mean the purchasing and storage of huge quantities of important food ingredients such as meat, milk, eggs and vitamin carrying cereals such as brown rice, wheat, corn, and others. Should the United Nations adopt this plan its successful execution will depend, at least in part, on the ability of the American veterinarian to prevent devastating diseases of livestock and to reduce animal mortality to the minimum; otherwise "Food: A Weapon for Victory" will be naught but a dream.

Mr. Fowler's work can be recommended to all vitally concerned with the production of food be it animal or vegetable. *Food: A Weapon for Victory by Bertram Fowler, Little, Brown Company, Boston, 1942.*]

M. L. MORRIS.

## Medical Education in the United States and Canada

A reprint of pages 1235-1377, August 15 issue of the *Journal of the American Medical Association* is the forty-second annual presentation of the Association's Council on Medical Education and Hospitals.

The opening articles are by the surgeons general of the Army, Navy, and Public Health Service, and Dr. Harold S. Diehl, of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, whose theme is "Medical Education and the War."

The section on "Educational Data" gives the enrollment of medical students in the various schools of the United States and Canada by states and provinces. The figures show a total enrollment of 24,884 for the two countries, of which 5,702 were graduated from July 1, 1941 to July 1, 1942. Of these, 539 were graduates of Canadian colleges.

The section entitled "Description of Medical Schools," describes the medical schools by states and provinces in respect to the date founded, changes, tuitions, last registration, graduations, and other data of academic interest.

University of Pennsylvania (1765), Columbia (1767), and Harvard (1788), are the existing medical colleges founded in the eighteenth century.

Medical schools founded in the first half of the nineteenth century are Vermont (1822); Jefferson (1825); Virginia (1827); Georgia (1828); Louisiana (1834); Kentucky (1837); Richmond (1838); Albany (1838); New York (1841); Western Reserve (1843); Toronto (1843);; Montreal (1843); Buffalo (1846); Laval (1848).

The older medical schools of the Middlewest were founded during the last half of the century. The oldest of these is Ann Arbor (1850); Miami, now Cincinnati (1852); Lind, now Northwestern (1859), Bennett Medical, now Loyola (1869); Iowa (1869); Minnesota (1883); Manitoba (1883); Pittsburgh (1886). The oldest Canadian medical school is Dalhousie (N. S.), established in 1867, and on the Pacific Coast the first was Toland Medical College, now University of California, founded in 1864.

The section on "Approved Internships" contains a list of 739 hospitals with a bed capacity of 258,660 and an accommodation for 8,349 internships. Six hundred and sixty-two of these hospitals are classified as to their fitness to furnish training in the 25 specialties named. The part (pp. 1345-1374) devoted to approved examining boards in medical specialties describes a fling into a new field by the AMA, started in 1933, for the purposes of certifying to the qualification of specialists in 15 different fields on the basis of the higher type of graduate work by already experienced clincians. It is too involved and undeveloped to analyze here. [*Medical Education in the United States and Canada by the Council on Medical Education, American Medical Association, 535 North Dearborn Street, Chicago. 1942. 142 pages. Graphic statistical material and descriptive text on medical education. Complimentary to subscribers of the Journal of the American Medical Association.*]

## Introduction to Parasitology

Forthwith, the author proceeds to lay down a foundation for the study of the subject by classifying the parasitic phyla of the animal kingdom into the guests, the aides, and the enemies of their hosts, though in the realm of usage only the latter—the pests and the killers—are, in fact, parasites.

*Commensals* are uninvited guests who drop in with neither evil nor charitable motives; the *symbionts* help their hosts to pay for their board; and the *parasites* are the ones who strike down the hand that feeds them. But, these creatures cannot be that sharply classified since some may be guilty, as charged, in one instance and acquitted in another.

The popular nomenclature and the significance of its baffing suffixes are briefly explained, that is, -a, -ia, -ida, -ina, and -idae. Each has its proper place.

The reminder that the predatory parasite is an inexperienced fool who sets out to destroy its own and only food and housing, and the fight of the host to protect itself (antibodies, phagocytes, immunity) are worthy introductions to a basic understanding of pathogenic parasitology.

Twenty chapters of illustrated reading ma-

terial epitomize the sum of knowledge on the more important endo- and ectoparasites which now occupy the attention of medical and veterinary science. Especially informative are the chapters on nematodes, hookworms, malaria, and the arthropods wherein the history, ecology, pathology, and man-handling of these threats to higher life are briefly delineated.

The drawings, which the author credits to Mrs. Helene Somers Millar, depict life cycles, eggs, larvae, nymphs, imagoes, and adult forms much better than the mill run of illustrations found in the veterinary literature, *vide* the history of the wood tick (*Dermacentor andersoni*), the feather-mites of fowls, the itch-mites (Sarcoptidae) of mammals, the hookworm (*Necator americanus*), which critics will pronounce work well done.

While such veterinarians as Railliet, Henry, Perroncito, and Hall are mentioned *pro forma*, the field of their researches does not appear notwithstanding that the pillage of man's food is perhaps why parasitology has become a major branch of the medical sciences.

The author, in turning from science to philosophy, headlines his closing fling *L'Envoi* (= the end of a song). Here, the reader is reminded that in Rome the term parasite was given to those who habitually poached on wealthy persons to get an easy living. Quoting: "Why not? From an evolutionary point of view, it may be argued that one survival is as good as another. . . . Many a shyster or quack makes a better living and holds a better place in society than the average, hard-working, honest man. . . . The human parasite may be a lawyer, doctor, merchant, government employee, priest, thief, or professor. . . . Time-servers. . . No parasite ever wrote a poem, drew an animated moving picture, led an army, or endowed an orphan asylum." No branch of medicine, save parasitology, could inspire the writing of that finalé. The subject is parasites of which and whom there is no shortage in any echelon of the terrestrial phylum.

Where the higher phila of the animal kingdom are concerned (dogs, cats, horses, cattle, sheep, poultry), the writer on parasitology assumes a great responsibility by not writing "poison" into every line pertaining to the use of drugs in its application. Parasites are friendly commensals indeed compared with the remedies used to repel them.

This book will certainly be appreciated by students, teachers, practitioners and research workers. A list of 25 biological laboratories where research workers can obtain parasites for experimental work is appended. [*Introduction to Parasitology by A. S. Pease, Professor of Zoölogy, Duke University.. 557 pages. Well illustrated. Charles C. Thomas, Springfield, Ill. 1942. Price, $3.75.*]

## The Current Literature Section

Judging from friendly suggestions received, the purpose of the section entitled "Current Literature" appearing in each issue needs explanation. Forthwith, readers should be reminded that the section has a definite objective and that objective is not an attempt to review current veterinary-medical literature. Its object is to keep readers informed on what is transpiring in the veterinary field without notable omission, and to accomplish this by scanning published material related to the work of the veterinary profession, whatever may be its source: newspapers, farm papers, science periodicals, medical journals, house organs, new books and the regular magazines of our own realm. The coverage is limited only by the time we have to gather and abstract the material and the white space the Association can afford to fill. Note that section has two parts: current material and books. It seems clear that the reading of this section monthly will keep the reader quite well up-to-date, on the generalities. The day is far off when the veterinary profession can support a journal that will publish abstracts of all the literature pertaining to it. The abstract section of the J.A.M.A. prints more ems than the whole J.A.V.M.A. and it doesn't profess to be complete. To duplicate that would cost more money per month than we have to spend for all purposes in a year. On the other hand, we can afford to keep members informed on the main features of "the passing show," and we attempt to do so.

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The AVMA is truly the watchdog of American veterinary education. It started to play that role even before it was organized. In the 1850's, C. M. Wood of Boston, its third president, brought about the demise of the Boston Veterinary Institute of that decade, when he refused to agree with his co-workers when they wanted to matriculate incompetent students and admit quacks to advance standing.

# THE NEWS

## *AVMA Activities*

### Annual Dues Increased to $7.00

Effective January 1, 1943, membership dues will be $7.00 per year, including subscription to the official JOURNAL. This increase from $5.00 follows unanimous favorable action on the by-law amendment proposed at the Indianapolis session in 1941 and voted upon at the 79th annual meeting in Chicago in August, 1942.

Notice of the change will be contained in the annual dues notice to be mailed later this year.

With the increase in annual dues there will be a commensurate increase in subscription price of the AVMA JOURNAL to nonmembers as shown below:

| | *Present Rate* | *New Rate* |
|---|---|---|
| Domestic | $5.00 | $7.00 |
| Foreign | 6.00 | 8.00 |
| Canada | 6.00 | 8.00 |

The single copy price of the JOURNAL will remain at 75 cents.

### Can You Help Locate These Lost Members?

The aid of JOURNAL readers is solicited in locating the following members, mail to whom has been returned to the Association's central office. The last known address of each is given. Should you be able to provide information as to present residence, your advice via postcard or letter will be greatly appreciated.

Andersen, Andrew C. P., P. O. Box 37, Shellyville, Tenn.
Case, R. W., 1534 W. McDowell, Phoenix, Ariz.
Castro, Fred., General Delivery, Omaha, Neb.
Collins, Wayne D., 4th E. A., Fort Bragg, N. Car.
DeMott, Andre R., Utica St., DeRuyter, N. Y.
Dennie, F. W., 1519-41st Pl., Des Moines, Iowa.
Eakin, Jack, 105 Whitman, Pullman, Wash.
Finney, Lawrence, Georgetown, Ill.
Johnson, Lt. L. D., Veterinary Corps, Fort Leonard Wood, Mo.
Keane, John J., Fort Adams, Rhode Island.
Keown, G. H., 1420 Elford St., Victoria, B. C., Can.
Leathers, Barnett, Co. "C" 61 Inf. Tng. Bn., Camp Walters, Texas.
McPeek, Raymond C., 410 W. 26th Terrace, Kansas City, Mo.
Mathis, Rudy C., State Veterinarian, Atlanta, Ga.
Mesenbrink, R. L., General Delivery, Kirksville, Mo.
Miller, Lt. Arthur A., 1st Training Reg., Ft. Benning, Ga.
Moffat, Geo. Colvin, 5732 W. Cermak Rd., Cicero, Ill.
Morehouse, E. Wray, 2705 Portland Rd., Salem, Ore.
Officer, Charles C., Box 368, Ferris, Texas.
Olson, Philip C., 914 W. Walnut St., Yakima, Wash.
Sheeler, H. H., 2427 Hope St., Huntington Park, Calif.
Smock, Col. Stanley C., 333 Main St., Morristown, N. J.
Spears, C. J., Dublin, Ga.
Thompson, L. G., Swainsboro, Ga.
Walker, E. M., c/o General Delivery, Alamosa, Colo.
Weiner, Bernard M., c/o General Delivery, Newark, N. J.
Wise, Thomas M., 1220 Main St., Highland, Ill. Highland, Ill.

### Selling Mares' Urine

*—Photo by Wilford A. Haynes*

**Group of twenty-four mares and colts, part of a band of seventy-five mares maintained by the Stockweather Farms at Northville, Mich., for the purpose of supplying pregnant mares' urine to the hormone laboratory of Parke, Davis & Company.**

# APPLICATIONS

## First Listing*

ALME, H.
Box 86, Amery, Wis.
B.V.Sc., Ontario Veterinary College, 1931.
Vouchers: F. L. Bartlett and James S. Healy.

BADGER, JOSEPH E.
250 Main St., Madison, N. J.
D.V.M., Ohio State University, 1935.
Vouchers: J. H. DeGroodt and J. R. Kinney.

BORTMAN, E. A.
5004 Cass, Utica, Mich.
D.V.M., Michigan State College, 1937.
Vouchers: J. P. Hutton and J. W. Cunkelman.

CONNER, ROY E.
Fort Worden, Wash.
D.V.M., Washington State College, 1931.
Vouchers: M. C. Barnes and F. E. Smith.

DAYMAN, G. L.
463 N. Lake, Pasadena, Calif.
D.V.M., Washington State College, 1939.
Vouchers: W. L. Curtis and G. W. Closson.

DIGMAN, ROBERT L.
6621 S. Richmond St., Chicago, Ill.
B.V.Sc., Ontario Veterinary College, 1936.
Vouchers: R. A. Resseguie and T. E. Utley.

ELLIOTT, CHARLES H.
c/o 33rd Div. Hq. A.P.O. No. 33,
Fort Lewis, Wash.
D.V.M., Chicago Veterinary College, 1918.
Vouchers: H. H. Harz and J. S. Bengston.

GOMEZ, E.
Calle 9 entre G. y H. Vedado, Havana, Cuba.
D.V.M., Universidad de la Habana,
Vouchers: Rafael Lagarde and Rafael Santa Maria.

JUNG, O. E., JR.
175 W. Glenn, Auburn, Ala.
D.V.M., Alabama Polytechnic Institute, 1940.
Vouchers: O. E. Jung, Sr., and E. S. Winters.

MASTER, D. C.
Box 272, Clinton, N. J.
B.V.Sc., Ontario Veterinary College, 1940.
Vouchers: J. G. Hamilton and J. D. Case.

SALERNO, R. C.
317 Linden Ave., Waterloo, Iowa.
D.V.M., Royal University of Naples, 1938.
Vouchers: E. W. Burke and J. R. Barry.

STRESSER, T. C.
5144 W. Grand Ave., Chicago, Ill.
D.V.M., Michigan State College, 1935.
Vouchers: O. Norling-Christensen and J. G. Hardenbergh.

WINELAND, E. D.
Booneville, Ark.
D.V.M., St. Joseph Veterinary College, 1920.
Vouchers: C. D. Stubbs and Fred Thompson.

*See July 1942 issue, p. 54.

## Second Listing

Angerer, William J., Box 23, Atkinson, Ill.
Atterberry, James M., Maxwell, Iowa.
Bodenweiser, Lewis E., Box 1296 R.R. No. 13, Kirkwood, Mo.
Bowie, B. S., 111½ Parkside Pl., Jackson, Miss.
Buck, R. M., Belle Fourche, S. Dak.
Buell, Herbert J., Ellenburg Depot, N. Y.
Campbell, M. R., Winsted, Minn.
Church, H. L., Battle Creek, Neb.
Corbin, A. E., R. D. No. 2, Westerville, Ohio.
Cowser, Albert Roscoe, 59 N, Cone St., Farmington, Ill.
Crawford, J. P., Savanna Ordnance Dept., Proving Ground, Ill.
Dunlop, W. R., Mount Pleasant, Ontario, Can.
Dunne, H. G., Wadena, Minn.
Eaton, B. G., Box 36, Ft. Loramie, Ohio.
Elberson, F. J., 1801 S. Walnut, Muncie, Ind.
Fish, Norman Alfred, 6448 N. Clark St., Chicago, Ill.
Gardner, Richard S., 266 S. Paint St., Chillicothe, Ohio.
Graham, C. C., Wellsburg, Iowa.
Jacobson, David, States Hotel Bldg., Woodward, Okla.
Jones, Virgil B., 408-417 Calhoun State Office Bldg., Columbia, S. Car.
Jurado, F. R., Esteban Bonorino 371, Buenos Aires, Argentina.
McClure, James W., Owensboro, Ky.
McGregor, A. N., 2347 E. 70th Pl., Chicago, Ill.
Maude, Stuart H., 1614 S. Main, Santa Ana, Calif.
Menke, L. L., Hempstead, Texas.
Munro, Joseph B., 581 Metacom Ave., Warren, R. I.
Pemberton, Clarence C., 4 E. Brown St., Liberty, Mo.
Ryan, C. L., 7 Pleasant St., Dexter, Maine.
Schrumpf, H. R., 1728 E. Washington St., Indianapolis, Ind.
Steele-Bodger, H. W., 28 Lichfield St., Tamworth Staffordshire, Eng.
Torres, Juan A., Casilla 537, Santiago, Chile.
Turner, Amos A., 220 W. Spring St., Freeport, Ill.
Veenstra, Robert J., 811 Adams S.E., Grand Rapids, Mich.
Waddill, Burg, 1316 S. Broad Ave., New Orleans, La.
Wheaton, Olin G., 512 N. Center St., Naperville, Ill.
Wolfe, Jerry, Grand Mound, Iowa.

## 1942 Graduate Applicants

(Second Listing)

Alabama Polytechnic Institute
BAILEY, WILFORD S., D.V.M.
150 Cary St., Auburn, Ala.
Young, F. A., Delphos, Ohio.

BURNSIDE, OTIS H., D.V.M.
1308 29th St., N., Birmingham, Ala.
NELSON, HOYT, D.V.M.
Red Bay, Ala.
Ohio State University
DIMICK, ALAN H., D.V.M.
Aurora, Ohio.

## U. S. GOVERNMENT

**Research in Dehydration of Food.**—The department of agriculture has established a research laboratory at Albany, N. Y. for the study of processes of dehydration in order to insure the highest quality of dried food for the armed forces of the United Nations. The training program is to be conducted jointly by the Agricultural Marketing Administration and the Agricultural Research Council. The instruction will include courses in processing, storing and packing for commercial producers. Meat, milk, eggs, and vegetables in fresh and dehydrated form will be studied.— *From Science, Sept. 25, 1942.*

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### BAI Transfers and Pensonnel News*

Gilbert W. Carl from Augusta, Me. (tuberculosis) to Columbus, Ohio (tuberculosis).

Louis D. Chedester from Kansas City, Kans. (meat inspection) to Ft. Worth, Tex. (tuberculosis).

Frank D. Enzie from Richmond, Va. (tuberculosis) to Beltsville, Md. (Zoölogy Division).

Albert E. Evans from Pueblo, Colo. (in charge meat inspection) to San Antonio, Tex. (in charge).

Wilbur C. Finn from Omaha, Neb. (meat inspection) to Kansas City, Kans. (meat inspection).

Edward M. Fitzgerald from Ft. Worth, Tex. (meat inspection) to Reno, Nev. (meat inspection).

Frederick W. Hock, from Scottsbluff, Neb. (in charge) to Detroit, Mich. (in charge).

Ellis W. Kern from Ft. Worth, Tex. (meat inspection) to San Antonio, Tex. (meat inspection).

Meyer L. Koch from Montgomery, Ala. (tuberculosis) to Chicago, Ill. (meat inspection).

Clarence C. Merriman from Omaha, Neb. (meat inspection) to Los Angeles, Calif. (meat inspection).

Charles E. Mootz, Sr., from Detroit, Mich. (in charge meat inspection) to Philadelphia, Pa. (in charge meat inspection).

*Parenthesized words indicate the line of duty.

Garrett J. Roosink from Ft. Worth, Tex. (meat inspection) to San Antonio, Tex. (meat inspection).

Edward C. Roukema from Montgomery, Ala. (tuberculosis) to Jacksonville, Fla. (tuberculosis).

J. B. Thompson from Joplin, Mo. (in charge meat inspection) to Scottsbluff, Neb. (in charge meat inspection).

William E. Turlington from Chicago, Ill. (meat inspection) to Baltimore, Md. (meat inspection).

Floyd E. Wilson from Columbus, Ga. (meat inspection) to Joplin, Mo. (in charge meat inspection).

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### Office of War Information

The Agricultural Marketing Administration has released this information concerning supplies of high protein foods to be available for civilian use during the next 12 months:

Available supplies of eggs, it is estimated, will run about on a par with supplies for the past 12 months. The actual production of eggs is expected to register a large increase, but this increase will just about take care of the military and lend-lease requirements, leaving the amount available for civilian use about the same as in the previous 12-month period.

Secretary Wickard has asked for an increased production of 200 million extra chickens this fall and winter, to extend the supply of protein foods. Since little poultry is required for lend-lease purposes, this increased production, if achieved, would make from 500 to 600 million more pounds of poultry available for civilians.

According to the Fish and Wildlife Service, of the total yield of the fisheries for 1942, about 2 billion pounds will be available as food (equal to the 5-year average for 1935-1939). Because of increased military use and exports to the United Nations, 10 to 15 per cent less of this food will be available for civilian use.

**U. S. Reservoir of Purebred Livestock.**—Besides offering a haven for many human refugees in wartime, the United States is continuing to develop as a reservoir of choice blooded livestock, according to a report recently released by the Department of Agriculture.

During the fiscal year ended June 30, 1942, certificates of pure breeding were issued for 20,247 imported animals, an all-time record. This number exceeded by 6 per cent importations of the year ended June 30, 1941, which were 27 per cent more than for the preceding year.

The principal gain during the past year was in the importation of Holstein-Friesian, Jersey and Ayrshire cattle. They came chiefly from Canada and Mexico, but importations also were received from England, Ireland, New Zealand,

South America and other points throughout the world.

The importations represent many prominent breeds of all livestock. Together with pure-bred stock on hand, they augment the reservoir to be available in reëstablishing herds and flocks of countries that have been pillaged by the enemy.—*Bureau Veterinarian.*

## AMONG THE STATES

### Arizona

**State Association.**—The Arizona Veterinary Medical Association held its annual meeting at the State Capitol Bldg., in Phoenix, Oct. 10, 1942. The officers elected for the ensuing year are: J. B. McQuown, Tucson, president; Donald Miller, Phoenix, vice president; and Vego Milkelson, Phoenix, secretary-treasurer.

An excellent program followed, with the following speakers:

**Ward Lee,** BAI, Phoenix.
**T. B. Jones,** state veterinarian, Phoenix.
**J. E. Coberly,** practitioner, Mesa.

The next meeting will be held in April, 1943, in conjunction with the Arizona Public Health Association.

### California

**Joint Meeting.**—The Southern California Veterinary Medical Association and the Small Animal Hospital Association held a joint dinner meeting Oct. 21, 1942 in the dining room of the Chamber of Commerce Bldg., Los Angeles.

**Anson Hoyt,** M.D., of the bacteriology department of the University of Southern California discussed: "Virus and Its Relationship in Veterinary Medicine."

**Major J. G. Townsend,** Veterinary Corps, U. S. Army, spoke on: "The Veterinarian and His Duties and Responsibilities in the Armed Forces."

C. H. Ozanian, *secretary,* SCVMA
E. C. Jones, *secretary,* SAHA

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Dr. C. M. Haring, professor of veterinary science at the state university for many years, has been appointed consultant to the War Manpower Commission.—*From Science, Sept. 11.*

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Of the $3,908,310 collected in celebrating President Roosevelt's birthday in January, California was second only to New York in the amount contributed to the infantile paralysis fund for research, education and relief. The state's contribution was $337,318.

### Colorado

**Personal.**—Floyd Cross, veterinary division, Colorado State College became extension veterinarian for the College September 1, replacing E. N. Stout, retired. Dr. Cross will serve also in the research work of the experiment station.

### Georgia

**Southern Veterinary Medical Association.**—Officers elected at the meeting in Atlanta on Sept. 24 were: J. L. Ruble, Orlando, Fla., *president* for 1942-43; E. S. Brashier, Jackson, Miss., *president* for 1943-44; D. Caughlin, Knoxville, Tenn., *first vice-president;* M. K. Heath, Birmingham, Ala., *second vice-president;* L. A. Mosher, Atlanta, *secretary;* M. R. Blackstock, Spartanburg, S. Car., *treasurer;* S. F. Stapleton, Americus, board of directors.

H. N. Johnson of the Rabies Laboratory, Rockefeller Foundation, Montgomery, Ala., advocated in his address the enactment of statewide laws requiring compulsory vaccination of dogs against rabies.

### Illinois

**Important Court Ruling on Milk.**—The United States Circuit Court of Appeals in the case of Fieldcrest Dairies vs. City of Chicago upheld (August, 1940) the plaintiff in its contention that selling milk in paper containers is a violation of the city ordinance which states specifically that milk in small quantities for family use must be contained in "standard milk bottles." The Court contended "that the portion of the ordinance prohibiting the plaintiff from distributing milk in single service containers was contrary to the public policy of the State and void."

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**Northern Illinois Veterinary Medical Association.**—More than 100 veterinarians and between 20 and 30 farm advisers, attending the 19th annual convention of the association at Rockford on Sept. 16, voted to establish a laboratory for the free testing of dairy herds in northern Illinois and for the eradication of rapidly spreading diseases among livestock.

Necessitated by the threatened shortage of meat and milk, due to Bang's disease and mastitis, the laboratory will be operated by the state department of agriculture in connection tion with the Rockford health department.

Farm bureaus throughout the northern part of the state will coöperate with the laboratory in asking farmers to sign up for testing of their herds. Then veterinarians, under direction of the federal and state departments of agriculture, will act to eradicate diseases discovered.—From the *Belvidere, Ill., Republican.*

**Chicago Veterinary Medical Association.**—The regular monthly meeting was held in the Palmer House on Tuesday, October 13. Lectures illustrated with motion pictures were given by:

**Herbert Rattner,** dermatologist — Fungus Manifestations in the Human Family.

**A. C. Merrick,** practitioner—Skin Conditions Found in Small Animal Practice.

Hostesses to the ladies were Mrs. C. B. Krone, Mrs. G. B. Merrick and Mrs. J. R. Merrick.

s/F. A. Anderson, *Secretary.*

## Iowa

**Cedar Valley Veterinary Medical Association.**—Forty-three veterinarians attended the dinner meeting of the association at Waterloo on Sept. 14, 1942. The technical program was arranged by the September program committee, consisting of A. L. McGrath of Jesup and M. W. Osborn of Independence.

**Joe W. Giffee,** Cedar Rapids, federal inspector, conducted a round table discussion and question box which included the following topics: Hemoglobinuria, coccidiosis and mastitis in cattle; erysipelas, flu, parasites and enteritis of swine, including the treatment of enteritis with salt and anti-hog cholera serum; hog cholera vaccines, and nudging of swine and the cause of incessant prodding of each other.

**O. P. Thompson,** Waterloo, physician, talked on tankage killing hogs.

**John B. Bryant,** Mount Vernon practitioner, described the swine section of the Eastern Iowa technical program.

It was voted to suspend the October meeting, to avoid conflict with the dates of the Eastern Iowa meeting at Cedar Rapids, Oct. 13 and 14.

## Kansas

Kansas State College.—The alumni were gratified at the election of Dr. Charles W. Bower at the 79th annual meeting, ('18), as president-elect of the AMA. He is the first Kansas State College graduate and the second Kansan to have attained this distinction and the alumni feel inspired by this recognition.

Contributions for the alumni reading room in Veterinary Hall have been coming in from loyal alumni.—*Veterinary Alumni News.*

## Louisiana

**State Association.**—The bimonthly radio programs sponsored by the association featured for August a talk on rabies by Dr. Burg Waddill of New Orleans, and for October, a talk on diseases and parasites of livestock by Dr. C. M. Heflin of Baton Rouge.

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**Personals.** Dr. A. H. Groth (I. S. C. '31) has been appointed acting head of the Department of Veterinary Science at Louisiana State University.

Dr. Rue Jensen (Colo. '42) has taken up his work as instructor and assistant veterinarian with the experiment station at the state university.

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William T. Oglesby, affectionately called "Bill," head of the Department of Veterinary Science, Louisiana State University, has been called to the colors and is now Lieut. Oglesby, located somewhere in the big wide world. A. H. Groth, "Bill's" capable assistant will act as head of the department "for the duration." Dr. Oglesby has had the difficult task of wearing the shoes of prominent predecessors—Morris and Dalrymple—and everyone agrees that he wore them well, remarkably well. He is an alumnus of Iowa State, '31.

## Maine

**State Association.**—The regular fall meeting was held in Auburn on Oct. 14, 1942, at a dinner meeting. The program included a business meeting and the following talks:

**L. K. Green,** practitioner and mayor of Auburn—Demonstration of Bovine Reproductive Organs to Show Common Genital Diseases and Mastitis.

**H. N. Eames,** Brunswick practitioner, Mastitis Control in the Herd.

**M. E. Maddocks,** Augusta, and **E. C. Moore,** Lewiston, practitioners—Discussion of Mastitis Control.

**G. M. Potter,** Portland, practitioner—Report on the AVMA business meeting.

**P. R. Baird,** Waterville, and C. L. Ryan, Dexter, practitioners—Report on the AVMA program.

s/J. F. Witter, *secretary-treasurer.*

## Missouri

**National Veterinary Practitioner's Association.**—Officers elected at the national convention in Kansas City, Mo., June 29, 1942, were:

**Thos. A. Sigler.** (Ind., '02), Greencastle, Ind., *president.*

**A. F. McGreevy.** (G.R.U.C., '15), Sioux City, Ia., *first vice-president.*

**S. E. Hershey.** (Q.U., '98), Charleston, W. Va., *second vice-president.*

**J. E. Weinman.** (K.C.V.C., '13), Lincoln, Neb., member of Executive Board.

**Geo. A. Hawthorne** (K.C.V.C. '18), Clarinda, Ia., member of Executive Board.

Three members carried off high honors at the AVMA meeting in Chicago: Dr. Chas. W. Bower of Kansas, president-elect; Dr. C. C. Hastings of Illinois, member-at-large of the Executive Board, and Dr. F. H. Suits of Missouri, chairman of the large animal section.

s/J. C. Flynn, *Secretary.*

## New York

Ten fish and wildlife sanctuaries have been established in New York counties by executive order of President Roosevelt.

## North Carolina

**Personal.**—Dr. C. J. Lange (Cornell '32), who has been practicing in Greensboro, N. C., for the last four years, is now occupying a new residence and hospital on High Point Rd., with accommodations for thirty-five animals.

## Texas

**Dallas-Fort Worth Veterinary Society.**—The first meeting of the season was held in Fort Worth. Sept. 3. Officers elected were: R. A. Self, *president;* R. T. Dickinson, *vice-president;* Leon G. Cloud, *second vice-president;* and G. A. Brock, *secretary-treasurer.* The second meeting was held in Dallas, at the Adolphus, on Oct. 1.

**Personal.**—Dr. Doyle W. Hennessee (T.A. & M. '38) is Laboratory Director for the Livestock Sanitary Commission at Fort Worth, replacing Lt. Donald D. Demke (T.A. & M. '41) who entered the Army July 7.

## Wisconsin

**Corrigendum.**—In the language of Mark Twain, the announcement of the death of George W. Minshall, longtime practitioner of Viroqua, was greatly exaggerated. *(Vide,* the Journal, Sept. 1942, p. 242.) The confusion arose from the death of Dr. Minshall's father.

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**The Southeastern Wisconsin Association.**—At the meeting held at the Park Hotel, Madison, September 1, the attendance was 46.

**Walter Wisnicky,** state chairman of the P. & A Service for veterinarians spoke on "The Veterinarian's Relationship to the Selective Service."

**C. R. Curtis** reported on the AVMA convention at Chicago, in the rôle of delegate to the House of Representatives.

**V. S. Larson** related the war activities of his department and explained the use of the new tatooing instrument which has been officially adopted.

In the conducting of a question box, the "quiz kids" were: B. A. Beach, Madison; George A. Gettleman, Hartford; L. T. Donavan, Waupun; and John Schwab, Oconomowoc. The meeting was rated among the more profitable and enjoyable events of the Association.

**The Northeastern Wisconsin Association.**—The Association held a meeting at Saint Croix Falls, on the invitation of James W. Wilson of that city. The attendance was 25 which, in view of the present demand for the service of veterinarians, was regarded as a good showing.

**J. Feist,** of St. Paul, directed a canine clinic that was exceedingly complimentary. Special surgical techniques were demonstrated.

**S. K. Andreason** and **W. F. Nolechek** were in charge of the large animal clinic.

**B. A. Beach,** of the University of Wisconsin, discussed the control of mastitis.

**Walter Wisnicky** gave a talk on artificial insemination.

**M. L. Claflin,** of Barron, officiated as toastmaster at the banquet which was held at the "Steamboat" in Saint Croix Falls. One of the features of this event was the report of John R. Berggren of Baldwin who related exciting incidents of the recent flood which terrorized the population of northwestern Wisconsin as they watched the water rising about them.

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C. W. Schwiesow, practitioner of Ripon, and Harry Hubbard of the federal force have joined the colors.

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Isaac T. Mock is a new addition to the staff of the State Control Laboratory conducted at Madison under the direction of V. S. Larson.

s/J. S. Healy, *Resident Secretary.*

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**Northeastern Wisconsin Association.** The fifth annual meeting of the Northeastern Wisconsin Veterinary Medical Association was held at the Hotel Murdock, Shawano, on Oct. 7, 1942. The following program was presented in the afternoon and evening.

**Wm. Madson,** Appleton, discussed the subject of equine practice.

**V. S. Larson,** director Livestock Sanitation, Madison, "State Regulations, Brucellosis, Etc."

The officers elected were: C. E. Hammerberg, president; B. Royer, vice president and E. C. Humke, trustee for three years.

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**Personal.**—Dr. E. H. Peterson (Cornell '42) has joined the Department of Animal Pathology and Hygiene at the University of Illinois as a research worker. While on the staff at Wisconsin, he did outstanding work in the field of bovine mastitis.

## COMING MEETINGS

Midwest Small Animal Association. Hotel Burlington, Burlington, Ia., Nov. 5, 1942. Wayne H. Riser, 525-17th St., Des Moines, Ia., secretary.

Mississippi Valley Veterinary Medical Association. The Executive Board has decided to postpone indefinitely the meeting scheduled for Nov. 12-13, 1942 because of uncertainty of transportation. L. A. Gray, Bushnell, Ill., secretary.

National Assembly of Chief Livestock Sanitary Officials. Hotel LaSalle, Chicago, Ill., Dec. 1, 1942. R. A. Hendershott, Trenton, N. J., secretary.

United States Livestock Sanitary Association. LaSalle Hotel, Chicago, Ill., December 2-4, 1942. Mark Welsh, College Park, Md., secretary.

Cornell University. Annual Conference for Veterinarians. Ithaca, N. Y., January 6-8, 1943. W. A. Hagan, Dean, Veterinary College, Ithaca, N. Y.

Tennessee Veterinary Medical Association. Noel Hotel, Nashville, Jan. 18-19, 1943. A. C. Topmiller, 2620 Eighth Ave., S., Nashville, secretary.

Illinois State Veterinary Medical Association. Springfield, Ill., Jan. 21-22, 1943. C. C. Hastings, Williamsville, Ill., secretary.

Mississippi State Veterinary Medical Association. State College, Miss., Jan. 21-22, 1943. H. C. Simmons, Jackson, Miss., secretary.

### Births

To Dr. and Mrs. Carter H. Anthony, 21st and Penn Sts., Kansas City, Mo., a son, Aug. 26, 1942.

To Dr. and Mrs. Harry J. Conrad, 431 North 16th St., Kansas City, Kan., a daughter, May 21, 1942.

To Dr. and Mrs. J. N. Brown, Shreveport, La., a daughter, Sept. 2, 1942.

To Dr. and Mrs. R. A. Case, 6024 Harford Road, Baltimore, Md., a son, June, 1942.

To Lt. and Mrs. Paul Christian, Station Veterinarian, Harlingen Gunnery School, U. S. Army, Harlingen, Texas, a daughter.

To Dr. and Mrs. Gordon C. Howell, c/o Norden Laboratories, Columbus, Ohio, a daughter, Sept. 12, 1942.

To Lt. and Mrs. Raymond A. Jones, Fort Knox, Ky., a daughter, Sept. 26, 1942.

To Capt. and Mrs. M. C. Kastner, U. S. Army Base, Albuquerque, N. M., a daughter, June 24, 1942.

To Lt. and Mrs. Raymond C. McPeek, a son, Oct. 1, 1942. Lt. McPeek is with the Quartermaster, U. S. Army, Kansas City, Mo.

To Dr. and Mrs. D. O. Wendt, 213 Elm St., Bonner Springs, Kan., a daughter, June 29, 1942.

## DEATHS

**Russell O. Bagley** (C.V.C., '11), 53 years old, Seattle, Wash., died Aug. 8, 1942. He had practiced in the state of Washington for twenty-five years and was currently operating small animal hospitals in Seattle and Renton. He joined the AVMA in 1937.

**William R. Crawford,** College Park, Md., died Sept. 19, 1942, in Walter Reed Hospital, Washington, D. C. after an illness of several months. Dr. Crawford enlisted in the Canadian Army during World War I where he was injured and later discharged. After this country's entrance into the war he enlisted in the United States Army and was wounded and gassed several times. He entered Cornell after the war and was graduated from the College of Veterinary Medicine in 1924.

He became research associate at the University of Maryland, later being transferred to state work at Westminster, Md. At the time of his death he was professor of veterinary science at the University of Maryland.

**Albert Hassall** (R.V.C., Lon., '86), Bowie, Md., former senior zoölogist of the BAI, died at Bangor, Me., Sept. 18, 1942. Born in Kent, England, he came to the United States in 1887 and became associated with the Bureau. He was well known for the Index Catalogue of Medical and Veterinary Zoölogy, the only publication of its kind in the world, which is now being published in sections by the Department. Upon his retirement, he returned as collaborator without pay in order to continue work on the catalogue.

**Thomas E. Jones** (Ont., '85), 81 years old, Newark, Ohio, died in August 1942. He had been in active practice for fifty-six years, having retired only two months before his death. Born in Aberystwith, South Wales, he had come with his family to Granville, Ohio, when five years old. He was a charter member of the Ohio State Veterinary Medical Association and had been a member of the AVBA since 1920.

**Harold F. Little** (Ind., '21), 52 years old, Sacramento, Calif., died Sept. 22, 1942. Associated with the California Department of Agriculture since 1922, he had been sheep disease specialist of the division of animal industry since March 1942.

**Clare W. Pritchard** (Wash., '32), 34 years old, Palm Springs, Calif., died Aug. 22, 1942. He had been operating a small animal hospital there since 1938. He joined the AVMA in 1936.

# VETERINARY PREPAREDNESS

## State Veterinary Committees Requested to Complete Surveys of Veterinary Manpower

The following letter has recently gone to the chairmen of state veterinary committees from the Directing Board of the Procurement and Assignment Service:

Office For Emergency Management
WAR MANPOWER COMMISSION
Washington, D. C.

October 12, 1942

Procurement and Assignment Service for Physicians, Dentists, and Veterinarians

To: State Veterinary Chairman

From: Directing Board, Procurement and Assignment Service

Subject: Commissioning of Veterinarians Classified in Class 1-A by Selective Service Boards

The Directing Board recently requested information from the Office of the Surgeon General as to its policy concerning the commissioning of Doctors of Veterinary Medicine, since it seemed to the Board that valuable veterinary manpower was being lost through the induction of veterinarians as enlisted men and their subsequent commissioning through routine military channels.

The Board specifically asked the Surgeon General's Office if it would not be possible for veterinarians to apply for commissions upon receiving their orders for induction. In reply to the communication from the Directing Board, the Office of the Surgeon General gave the following information:

1. Routine commissioning of additional veterinarians in the veterinary corps was suspended two years ago.
2. Veterinarians now commissioned are in excess of the current needs and the needs of the immediate future.
3. The conserving of veterinary manpower should be considered a function of Selective Service.
4. If considerable numbers of veterinarians are inducted as privates, the War Department will not be able to commission them immediately because of lack of position vacancies.

In view of the above policy, it is recommended that all State Veterinary Chairmen immediately prepare adequate surveys of the veterinary manpower and its distribution for their respective states, in order that the need for the occupational deferment of veterinarians may be factually substantiated in requests to the local Selective Service Boards for the deferment of veterinarians. The data included in these surveys should be sufficiently full to enable these Boards to judge the essential character of the work of any veterinarian for whom deferment is sought on the ground of occupational essentiality.

It is further suggested that State Chairmen immediately communicate with the State Director of Selective Service for a discussion of the problem, as it is apparent that deferment in the future will depend upon the decision of the Selective Service Boards.

Form No. 142 10/7/42

A number of state veterinary committees have already made detailed surveys of veterinary personnel in their areas in relation to the livestock populations and the needed distribution of veterinary services to maintain effective control of animal diseases. For example, some state committees have organized this information on a county-wide basis in which the numbers of cattle, sheep, swine, horses and mules, and poultry are recorded, followed by a listing, by towns and cities, of the veterinarians within the county, the type of practice, and so on. In such instances, state committees will only need to make such revisions and changes as may be necessary in order to bring their survey records up to date.

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World War I was in no sense a war with animals. Most of the long-haul transportation was done with motor vehicles. But at the very front where the fighting was done, it was animals that brought in the bacon and the ordnance. In the end of this blitzing, men on foot will have to step in to take possession.

## National Roster Requests Additional Data

The National Roster of Scientific and Specialized Personnel recently mailed a supplemental questionnaire to members of professional and technical groups in order to obtain additional data which would reflect any change in the general situation of those persons who were surveyed about a year ago. The present form is simple and brief and veterinarians receiving it will find it requires little effort to furnish the data required so that the National Roster records may be kept up-to-date.

Attention is directed to the fact that this supplemental survey refers to the questionnaire and technical check list sent out by the National Roster over a year ago to some 300,000 persons and is not to be confused with the veterinary enrollment form and questionnaire of the Procurement and Assignment Service which was mailed last April. Veterinarians are urged to give their fullest coöperation in providing the additional information requested. The records compiled to date have enabled the Government to meet hundreds of specific demands for expert personnel in a rapid and accurate manner.

Let's fly to victory via America's 10 per cent payroll plan.

## Changes in Veterinary Personnel of P & A Committees

The calling to active service in recent months of veterinary reserve officers has affected the personnel of state veterinary committees to some extent. In two instances, the chairmen of these committees have had to be replaced.

**Alabama.**—Dr. I. S. McAdory, College of Veterinary Medicine, Alabama Polytechnic Institute, Auburn, was nominated to serve as chairman by the state veterinary association to replace Dr., now Lt. Col., R. S. Sugg who was ordered to active duty some time ago.

**California.**—Dr. M. J. O'Rourke, 720 Valencia St., San Francisco, was nominated by the state association to succeed Dr., now Major, Joseph M. Arburua. Major Arburua has been on active duty for some months.

Drs. McAdory and O'Rourke have received official appointments from the Washington headquarters of the Procurement and Assignment Service.

In the Eighth Corps Area (Arizona, Colorado, New Mexico, Oklahoma and Texas) a change in the veterinary membership of the Corps Area Committee has been brought about by the call to active service in August of Dr., now Major, M. B. Starnes of Dallas, Texas who had served on the Corps Area Committee since its inception last December.

Upon request from the Directing Board of the Procurement and Assignment Service, the Committee on Veterinary Medicine has nominated Dr. James Farquharson, Division of Veterinary Medicine, Colorado State College, Fort Collins to replace Major Starnes.

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Getting money out of Congress for scientific research is as tough a job as pulling the canine tooth of a yearling pup.

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If your Thanksgiving turkey roast isn't as delectable as usual perhaps the turkey grower fed too much fish oil to his flock to prevent rickets. Fish oils impart an objectionable flavor to turkey meat.

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While the time of wrapping straw or paper around the feet in lieu of foot wear called shoes may be far off in the United States, it doesn't signify that shoes should be cast into the alley when they lose some of their stylish beauty. Everything, not just rubber tires, should be conserved, or else.

# COMMITTEE REPORTS

## Adopted at the 79th Annual Meeting
## August 24-27, 1942

## Education

This year there were graduated from the ten veterinary colleges accredited by this association in the United States 502 veterinarians, and in the two accredited colleges in Canada 67. There are in these accredited colleges 2155 students in the United States and 198 in the two Canadian colleges. These numbers do not include students in the pre-veterinary courses. There were 180 deaths of veterinarians reported in the veterinary journals. The mortality rate is considerably higher than reported in previous years.

The most important educational change has been the introduction in the American veterinary colleges of the "accelerated course." Due to war conditions this course is so planned that by utilizing vacations the regular four-year course of study is completed in three calendar years. The Canadian colleges will continue the regular four-year course.

Your committee has notified all state veterinary examining boards of this accelerated course adopted by the colleges accredited by this association and has also supplied them with a list of colleges accredited by this association in the United States and Canada.

The number of applicants for veterinary training in the various colleges is still large but it appears probable that, due to war conditions, the number of such applicants will diminish.

A phenomenon quite new in the experience of some of the veterinary schools is the appearance of large numbers of applicants for admission who have little to recommend them except good scholastic records. These persons present serious problems to admission committees of state supported schools because it is difficult to explain to state officials why such persons are not accepted. These generally feel that scholastic aptitude is all that is required. If the problem were one of selecting candidates who would make good students that would be the case, but the responsibility of admission committees goes further than this in that they are obligated to see that the schools provide as good a veterinary service as is possible with the facilities that they have and under conditions with which they must work, and this goal will not be approached by selecting students upon a scholastic basis alone. In other words, admission committees should attempt to select candidates who will make good professional men and not simply good students. Every educator knows that there often is considerable difference between these two ends.

The ill-adapted applicants often are men who obviously are misfits. Graduates in medicine, dentistry and pharmacy, Ph. D. men in many biological fields, are among them. Such persons often are dissatisfied with their present lot and appear to have a delusion that veterinary medicine is a virgin field of endeavor in which their abilities will be more fittingly rewarded than in the barren area in which their present lot is cast.

The effectiveness of the sifting done by the committees on admissions will depend upon the judgment of human nature and character which the members possess since there are no clear-cut objective methods by which the selections can be made. Subjective judgment must be based upon personal interviews and upon recommendations of persons who are known to the committee and whose judgment can be trusted. General recommendations ordinarily are of little value for there is no one so bad, apparently, that he can't obtain a good recommendation from someone. General intelligence can be determined from transcripts of scholastic records. If these indicate a satisfactory mental-ability level, it is not so important to attempt to decide precedence in this group on the basis of scholarship as it is to make selections from it on the basis of personal qualifications.

No veterinary colleges have been visited by the committee during the past year, but a questionnaire sent to the deans of all accredited colleges shows that steady progress has been made, not only in the teaching force but also in equipment. The Washington State College has provided a new and much needed building for the veterinary college. The Committee recommends that the following veterinary colleges be placed on the accredited list of this association for the coming year and their graduates be eligible for membership in this association.

1) Alabama Polytechnic Institute, Division of Veterinary Medicine.
2) Colorado State College, Division of Veterinary Medicine.
3) Ecole de Médecine Vétérinaire de la Province de Quebec, Université de Montréal.
4) Iowa State College, Division of Veterinary Medicine.
5) Kansas State College, School of Veterinary Medicine.
6) Michigan State College, Division of Veterinary Medicine.
7) New York State Veterinary College, Cornell University.
8) The Ohio State University, College of Veterinary Medicine.
9) Ontario Veterinary College, University of Toronto.
10) University of Pennsylvania, School of Veterinary Medicine.
11) Texas Agricultural and Mechanical College, School of Veterinary Medicine.
12) State College of Washington, College of Veterinary Medicine.

s/N. S. MAYO, *Chairman*

L. H. HURT
C. D. MCGILVRAY
W. A. HAGEN
E. T. HALLMAN

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# Resolutions

## Resolution No. 1

*Whereas*, The freedom of the people of the entire world is gravely endangered and the allied nations are engaged in deadly conflict with their enemies for the preservation of that freedom, and

*Whereas*, The Congress of the United States has declared that a state of war exists between this nation and the governments of the axis nations, and

*Whereas*, this war places serious and unusual responsibilities upon all of our people and requires especially that trained and professional groups such as ours exert their best efforts to the winning of the war, and

*Whereas*, the veterinarians of the United States earnestly desire and are prepared to do their utmost for the war effort; now, therefore, be it

"*Resolved*, That the veterinary profession as represented by the American Veterinary Medical Association, in convention assembled, does hereby pledge its wholehearted, loyal support individually and collectively to the President and the people of the United States for any and all needs for its services which may arise to meet the military and civil requirements of our country, to the end that the war may be won and a lasting peace established, and be it further

*Resolved*, That a copy of this resolution be sent to the President of the United States, to the Vice-President as presiding officer of the United States Senate and to the Speaker of the House of Representatives.

## Resolution No. 2

*Whereas*, the quality and wholesomeness of the soldiers' mess is essential to the health and morale of our armed forces, the foods of animal origin such as meat and meat products, dairy products, poultry, eggs and fish furnished to the troops being of special importance in this respect, and

*Whereas*, an excellent exhibit of these products, set up by the coöperative efforts of several organizations and depicting the sanitary and hygenic precautions observed in their preparation under the supervision of the Veterinary Corps of the United States Army, has been made available to those in attendance at this meeting and to others, and

*Whereas*, the significance of this outstanding exhibit has also been made known to the general public through the press with resulting benefit to all concerned, now therefore be it

*Resolved*, that the American Veterinary Medical Association in convention assembled does hereby express its appreciation and thanks to the following institutions, organizations and business firms who have contributed to the exhibit of foods of animal origin:

Allied Store Utility Company
American Meat Institute
A. & P. Food Stores
Armour & Company
Army Quartermaster Market Center
Commanding General-6th Service Command
C. V. Hill Company
McCray Refrigerator Company
National Livestock & Meat Board
The Palmer House
Super Cold Midwest Company
Swift & Company
Universal Refrigeration Service Company
Wilson & Company, Inc.

and be it further

*Resolved*, that a copy of this resolution be sent to each of the coöperating agencies.

## Resolution No. 3

*Whereas*, the scientific, educational, and technical exhibits have been of outstanding quality and merit at this 79th annual meeting of the American Veterinary Medical Association, and

*Whereas*, both the press and the radio have extended excellent facilities and services so that valuable information concerning the activities of the veterinary profession in wartime has been made available to the general public, and

*Whereas*, the Palmer House has been most

coöperative in making its facilities available for this meeting with short notice under emergency conditions, and

*Whereas*, the Committee on Local Arrangements has rendered such effective service in the preparations for the conduct of this meeting with considerable personal sacrifices this busy war year; now, therefore, be it

*Resolved*, that the American Veterinary Medical Association, in convention assembled, does hereby express its appreciation, thanks and congratulations to all of the above and all others who have worked so faithfully and contributed so freely to insure the success of this meeting."

s/C. R. DONHAM, *Chairman, Pro tempore.*

## Biological Products

The Committee on Veterinary Biological Products feels that it is desirable at this time to re-state its aims, and the committee's interpretation of its duties. The by-laws of the Association define the duties of the committee as follows: "It shall be the duty of the committee to study the prophylactic and therapeutic merits of the various biological products employed in the practice of veterinary medicine and to present a report of its findings at each annual meeting."

Some years ago the committee defined its policy as evaluating the biological products on the basis of published evidence of their efficiency, and recommending the products as acceptable or not acceptable to the Association. The Committee during the past three years has attempted to bring this work up to date, and now has the situation fairly well in hand so that it is ready to study the current new products as they are presented to the profession. The work of the committee is made less arduous than it might be because of the work of the Division of Virus-Serum Control of the United States Bureau of Animal Industry. The Committee has recognized only those products manufactured under United States veterinary license and inspection of that division. As all manufacturers must conform to standards prescribed by the United States Bureau of Animal Industry, this Committee has considered that it was not necessary to study the products of each individual producer.

The policy of the Committee has been to be conservative in recommending that the Association accept any biological product.

At this time the Committee recommends that the following four products be added to the acceptable list:

Anti-hemorrhagic septicemia serum.
Fowl-larvngotracheitis vaccine.
Feline distemper vaccine.
Clostridium novyi bacterin.

Between July 1, 1940 and June 1, 1942, 10 new products were licensed by the United States Bureau of Animal Industry, and only one of these 10 new products is being recommended for acceptance at this time. That one is *Clostridium novyi* bacteria, which was developed for the control of infectious nacrotic hepatitis of sheep. Of the other nine new products, two are considered as still in the experimental stage, and seven are bacterins prepared from two or three species of bacteria whose etiological connection with clinical conditions need further study. We, therefore, class these products with the group of mixed bacterins and the corresponding antiserums, a group of products in regard to which the Committee in its 1940 and 1941 reports has already expressed as unfavorable opinion.

The Committee would welcome instructions or suggestions from the Association as to its activities.

s/HADLEIGH MARSH, *Chairman*

W. S. GOCHENOUR J. G. HARDENBERGH
CHARLES C. DOBSON F. A. IMLER
HARRIE W. PIERCE

## Proprietary Pharmaceuticals

The Committee's activities during the past year have been limited largely to correspondence requesting pharmacological advice on the merit or lack of merit of various proprietaries. Contact was also made with the Committee by the Syllabus Committee and the Committee on Recipe Book, both of the American Pharmaceutical Association. These two groups requested comprehensive information concerning veterinary formulas and pharmaco-therapeutics to be incorporated in a handbook intended for distribution to students and graduates of pharmacy. The majority of our committee members voiced disapproval of placing such information at the disposal of pharmacists and pharmaceutical students for reasons which are undoubtedly apparent to every practitioner of veterinary medicine and the requests were refused.

In the report of 1941, this Committee devoted particular attention to the question of methods by which it might be enabled to function in a more effective and satisfactory manner. In fact, review of the annual reports submitted by this committee during the period of its existence reveals that the contents have consisted almost exclusively of discussions on what might be accomplished rather than a report of results achieved. Certain minor duties, in large part consisting of giving advisory assistance as requested, have been assigned to this committee. This function has not been, to any extent, overtaxed. The Committee has also been primarily instructed "to study the merits of proprietary pharmaceuticals preparations (nonofficial) em-

ployed in the practice of veterinary medicine."

To accomplish such a duty, facilities for experimental observation, demanding adequate financial support, are required. A modest request for appropriation was made to the Association in the 1941 report but other than the unanimous vote of this body there has been no indication that the recommendation was given consideration by the Association officials empowered to act upon it. However, an attempt was made during the past year to initiate a preliminary experimental study of the therapeutic value and toxicity of certain sulfonamide drugs, funds being assured by an interested commercial firm. Several colleges of veterinary medicine were approached on the subject of coöperation in this project with the relatively negative results which might be expected under present disturbed conditions. This experience indicates, however, that assistance from the pharmacology departments of our educational institutions cannot be counted upon less the expenses of the undertakings are adequately underwritten in advance. Such assistance may best be given by appropriating definite sums for research fellowships, equipment, experimental animals, etc.

In closing this brief report, we again invite attention to the necessity for effort on the part of this association in furnishing the support necessary for the useful functioning of this committee. In the absence of Association interest this group can serve no purpose sufficiently useful to justify its existence and if this lack of support continues, the committee desires to take, regretfully, the unusual step of recommending its own termination.

s/R. S. AMADON, *Chairman*

HARRY CALDWELL H. E. MOSKEY
J. V. LACROIX R. S. MUNDHENK

## Public Relations

"Pearl Harbor" and all that it introduced, has happened since we last met. During this period every citizen of our country has felt the impact of the terrible conflict into which that vicious Sunday morning assault precipitated us. What yet awaits us in the way of "blood, sweat and tears" before final victory is achieved, no one is wise enough to predict.

It is obvious that the veterinary profession cannot be excluded from all that faces us as a nation engaged in a vital struggle, not only to retain its independence but also its very existence. Such times have had no counterpart in our country's entire history.

Under such conditions your committee has sensed the increased importance of its assignment, but unfortunately its members in their regular fields of responsibility have had additional duties imposed upon them by the war and therefore have not had the time actually needed to accomplish what would have been possible under more favorable circumstances.

At the beginning of our official year we outlined a four-point program as the main basis for our activities. They were (1) to provide state and other subsidiary associations, and individual members, with helpful public relations ideas and information, and to point out potential opportunities for making use of them; (2) to contact officials of such associations regarding public relations activities presently under way and to offer coöperation in improving or enlarging them; (3) to divide the territory into regions with a member of the committee assigned immediate contact and follow-up responsibilities in each; (4) to assemble and prepare for distribution in outline or complete form, subject-matter and collateral information on the principal phases of veterinary service for the use of individual members and officials of local associations in public relations fields.

We believe it was and is a good program outline. It is simple, it has wartime as well as peacetime application, and we hope that it may continue to serve as a guide for future activities of the committee.

Some of the philosophy back of this conception of public relations work assumes that it is as much the responsibility of each and every member of the profession to contribute to its objectives as it is of any group specially designated for such purpose, and that the greatest good will come through coördination of the individual and the group effort. It has been said that "every great institution is but the shadow of a single man." Contrariwise and just as true, it may be said that the reputation of any professional group is no better than a cross section of its individual members. To any layman of the general public the veterinary profession is appraised in accordance with his impression of its members of whom he has most knowledge. It thus seems clear that our public relation work cannot meet its greatest potentialities unless coöperative spirit and coördinated effort between individual members and specialized groups have full and free play.

President Jakeman expressed such conception of the responsibilities of the individual veterinarian in the address he made before the Northwestern Veterinary Medical Association in July when he said to those present, "Ask yourselves these questions—(1) Have I contributed all that I should toward the betterment of my profession? (2) Am I conducting myself as a professional man by employing the classical methods the quack cannot imitate? (3) Am I keeping up with the latest developments in my profession so that I may

be qualified to render the best possible service to my clients?"

The goal which we all have in mind, when we think of public relations, must surely be, the attitude toward and appreciation and utilization of veterinary service on the part of the general public. Our contacts with the different state associations disclosed some splendid public relations activity. But, unfortunately, only a few states reported active public relations committees. However, practically all replies received voiced interest in such work, offered coöperation and requested assistance in setting up and carrying on better public relations programs. There are indications that some members of the profession are concerned only in grievances, real or imaginary, within the profession, to the exclusion of interest in building up friendly attitude toward and appreciations of veterinary service on the part of the general public.

We have suggested that all state associations organize for carrying on public relations work and bring home to each individual member his responsibility in attaining maximum results from such efforts. We strongly urge that each state association without a public relations committee, arrange to appoint one as soon as possible, and that the best-qualified persons available be put on such committees. It is also suggested that practitioners conduct "first-aid-to-animals" courses as a contribution to the war effort. Such activities will have immediate as well as future public relations values. Most veterinarians have opportunities to give interviews to news reporters, to write articles of popular interest; to talk on the radio; to attend and participate in lay meetings. How many utilize all such opportunities? It is a challenge that should be met. Where help is needed a request will bring it.

The relationship of our profession to other technical and professional groups is also an important consideration. It has pleased our committee that President Jakeman took the lead in making it possible for our association to work more closely with the American Dairy Science Association, the Poultry Science Association, The American Society of Animal Production, and to become more intimately acquainted with their members and their active programs. We have been much concerned at times regarding serious conflicts between the members of our profession and representatives of the Coöperative Extension Service of the U. S. Department of Agriculture, and the state agricultural colleges and local counties, but this situation continues to improve as better understanding and clear thinking on the part of both groups occur. It is the belief of your committee that the appointment of thoroughly qualified extension veterinarians as subject-matter specialists in the state extension services will do more to improve conditions in this respect than any other one thing. At the present time some 14 states have such specialists.

Our committee undertook the job of completely revising the "First Aid to Animals" booklet issued by the Boy Scouts of America as the basis for making merit awards in this field to young candidates. This work was largely done by Dr. Schlotthauer but was reviewed by each member of the committee and is now ready to be transmitted to the executive officers of the organization. If accepted, this revised booklet will do much to advance the understanding and appreciation of the veterinary profession among thousands of youth scattered over all parts of the country.

In connection with the setting up of the USDA War Boards in each state and county of the nation to handle the Food-for-Freedom program, we attempted to have a qualified animal health representative added to the membership of such boards. Even though we failed, the effort was successful in having the attention of such boards called to the fundamental importance of healthy livestock in the success or failure of this tremendous war effort and the essential function of the veterinarian in connection with it.

The members of our committee have worked closely with the Procurement and Assignment Service of the Office of Defense Health and Welfare Services of which the Honorable Paul V. McNutt is director. In fact two of the committee members, Drs. Way and Hardenbergh, are members of the national advisory committee in the field of veterinary medicine. This worthy effort to appraise and apportion the value of each member of the medical, dental and veterinary professions to his or her most logical position in contributing to the war effort is widely recognized and deserves the support and coöperation of all members of our profession.

During the year was published one of the most comprehensive and interesting works ever written on the contribution of veterinary science to public health and the general economic welfare. Reference is made to the book, "Man's Greatest Victory Over Tuberculosis," by Dr. J. Arthur Myers of the University of Minnesota, with a foreword by Dr. John R. Mohler, chief of the U. S. Bureau of Animal Industry. Another noteworthy contribution in the field of literature was the publication of the 1942 Yearbook of the U. S. Department of Agriculture which bears the title, "Keeping Live Stock Healthy." Its 1200 pages bring together the best information available in the field of animal diseases and their control and eradication, and will have extensive distribution throughout the country. And in the popular literary field, the Novem-

ber, 1941, issue of "Nation's Business," the official organ of the U. S. Chamber of Commerce, carried an excellent article on the extent, variety and value of veterinary service under the title, "The First Line of Public Health." The authors were Dorothy Walker and Amy Schaeffer, and most of the information used was obtained from Bureau of Animal Industry sources.

Your committee has had a considerable number of requests from members for material to be used in talks before groups of different kinds which it was very glad to furnish.

The war situation makes it imperative that our profession go "all out" in adding its many possible contributions to victory efforts. We are engaged in the most gigantic food, feed and fiber production program ever undertaken. And inasmuch as livestock products, especially milk, eggs and meat loom so large in it and call for the greatest output of these commodities in history, it is apparent that livestock health is a vital consideration in the outcome.

"Food Will Win" slogans have been used in previous war periods but never before has such emphasis been placed on the products and by-products of the livestock industry. The combined spring and fall pig crop of 1942 will total more than 100 million head, the largest in history and record numbers of cattle and sheep are now reached or soon to be attained.

Such extreme production demands will tax as never before the physical well being of the nation's flocks and herds, and thus will require the advice and services of the best veterinary talent available in order to avoid, insofar as possible, the hazards to animal productive capacity that inevitably accompany high-pressure production methods and increased animal and fowl populations. The danger that the livestock field may be chosen for sabotage attempts as a means of interfering with our food production program, also should not be overlooked.

We are happy in the belief that we have rendered at least a small measure of service in our efforts during the past year but at the same time are conscious of the fact that only the surface of possibilities and needs has been scratched.

s/C. D. LOWE, *Chairman*

E. C. W. SCHUBEL — CASSIUS WAY
C. F. SCHLOTTHAUER — MARK WELSH

## Poultry Diseases

Shortly after the attack on Pearl Harbor, Dr. John H. Mohler, and members of the poultry section of the Bureau of Animal Industry United States Department of Agriculture, were counseled concerning the surest methods of attaining the new high goals of egg production set by Secretary of Agriculture Claude R. Wickard, to meet the war demands of the United Nations.

In due course, a veterinary program, national in scope and application, was prepared by this committee and presented to the Bureau on Feb. 9, 1942. The Bureau endorsed the program, urged its early publication, and recommended that a large number of reprints be made available. The program was published in the April, 1942, issue of the JOURNAL, and 10,000 reprints were made available for distribution to non-member veterinarians, state colleges, county agents, 4-H Club leaders, produce dealers, hatcherymen, feed dealers and poultrymen.

In the program, the committee pointed out that decreasing adult mortality was the surest, most economic means of guaranteeing the needed increase in egg production. For 1942, 4,200,000,000 dozen eggs will be required for the war effort. This is an increase of 700,000,000 dozen over 1941 production.

Data were presented to the government showing that increasing the number of layers would not guarantee the needed number of eggs; that, in the absence of new buildings, or the conversion of other farm buildings to poultry use, a serious condition of crowding would exist on most farms, especially in the Middlewest, wherein lies the great bulk of our national egg crop; that crowding decreases egg production per bird, and increases mortality; that both of these factors make it impossible to reach the desired goal.

It was shown that adult-poultry mortality has doubled in the last 20 years; that new researches were unnecessary to lower materially this annual loss of 150,000,000 adult fowls; and finally, that the execution of the program entailed little expense, and would result in lasting benefits.

Four major steps comprise the plan. They are:

1. Improved Disease Control
2. Improved Breeding
3. Improved Feeding
4. Improved Management

Following its endorsement, the first official release by the government came in July, when the department issued the following bulletin to all local war boards:

> "Sound programs for the reduction of mortality, such as that advocated by the American Veterinary Medical Association, should be adopted. The coöperation of every USDA agency reaching poultrymen, of all state agencies, of all veterinary and poultry organizations, of all feed dealers, hatcherymen and poultrymen generally should be given in effectuating programs to increase poultry livability."

The Committee sent a copy of the program

to 86 poultry department heads and poultry extension specialists at state colleges throughout the country, and asked for criticisms and suggestions as to how the plan could be made more effective in their respective states. To date 51 replies have been received. Not one has opposed the plan, and several valuable suggestions have been advanced.

The Committee believes that the program at once provides needed assistance to the poultry industry and simultaneously affords an unprecedented opportunity for the general practitioner of veterinary medicine to assume his rightful position of health advisor to the millions of flock owners. An equal opportunity, in all likelihood, will not be repeated in modern times, and it is hoped that all veterinary interests will unite to assist in furthering the poultry farmer's interests and those of the general practitioner.

The American Feed Manufacturers Association, through its president, Ralph M. Field, issued a bulletin to its 390 members, urging them to participate actively in disseminating copies of the program.

The program was presented at the annual meeting of the National Poultry and Egg Board in July. They unanimously adopted a resolution endorsing the plan.

At the disease section of the annual meeting of the International Baby Chick Association, also in July, the program was presented to 550 breeders and hatcherymen and their employees for discussion. At the conclusion of the section, a resolution was passed urging furtherance of the program as presented by this committee. When the meeting was adjourned, the hatcherymen present bought 2,000 reprints in 12 minutes, and additional orders were taken to be filled by mail. These copies will be placed in the hands of flock owners who furnish hatching eggs for the great hatching industry in the Middlewest.

One of the larger produce houses in the Middlewest has publicized the program broadly, in the form of weekly letters to their 250 buying stations. They have ordered copies for distribution to farmers in 10 states.

About 1,200 copies already have been distributed through feed dealer organizations. One state university ordered 1,000 copies for students and poultrymen attending short courses. Special articles on the program have been published in poultry journals, newspapers and trade publications and material furnished for radio publicity.

By late July, 10,000 copies had been distributed; one-half at about printing cost, netting $125.00, and the committee financed the balance.

The Committee's program for conserving adult poultry life is practical and workable. Since adequate nutrition, sound breeding, and capable management are the three prime essentials in reducing our nation's high annual poultry death rate, and since means of preventing and controlling many poultry diseases are known and available to practitioners, our responsibility in applying these facts in poultry practice is obvious.

Serious as these times are, the present situation provides the long-sought opportunity which the veterinary profession has desired to assert its leadership in poultry disease control.

### Avian Pathology Symposium

As a further aid in assisting the general practitioner in obtaining accurate diagnoses, the committee arranged an avian pathology symposium in Chicago in conjunction with the 79th annual meeting of our association. Methods of making critical diagnoses in both the laboratory and field were discussed. The subjects of respiratory infections, enteritis, nutritional diseases, and the leucosis complex were covered. Sixty-two pathologists from 21 states and Canada were in attendance. A mimeographed resume of the discussion is being prepared for distribution to avian pathologists throughout the country. At the conclusion of the meeting it was requested unanimously that another avian pathology symposium be arranged by the Committee on Poultry Diseases to be held during the 1943 AVMA convention.

### Poultry Meeting for General Practitioners

In recent years this committee has given considerable thought to a plan for bringing more help to the general practitioner at our annual meetings. In the past, the Section on General Practice has run concurrently with the Poultry Section. This has resulted in but few general practitioners attending the Poultry Section.

This year, the Committee arranged a special poultry meeting for general practitioners, to be held at a time not in conflict with other programs. A program replete with practical poultry helps for the practitioner was provided, including autopsy demonstrations, methods of securing an adequate history, and means of making clinical diagnoses of several important diseases. About 225 veterinarians from 35 states were in attendance.

### Extension School Activities

Interest and activity continue to increase in the poultry disease extension school plan in several states. Michigan has continued its activities in this field. In Indiana, 5 district schools, each 8 weeks in duration, two evenings a week, have been held, with an average attendance of 16 veterinarians for the 80 school periods, and a total registration of 173 veterinarians for the 5 schools.

In Iowa, Missouri, Illinois, and other states, veterinary departments, colleges, and exten-

sion workers have held meetings or extension classes for veterinarians, to bring them closer to the problems of the poultry farmer.

This committee urges that recommendations 5, 10, 11, and 12 of this committee's 1939-1940 report be carefully studied by veterinary colleges and veterinary departments throughout the country, and steps taken to provide "refresher" poultry courses for graduate veterinarians. There is sufficient evidence at hand to show clearly that these extension schools are of inestimable value to the poultry industry, and are profitable to, and desired by, general practitioners wherever they have been held.

### STUDENT TRAINING IN POULTRY

With the rise of the poultry income to the prominence of second place in our national agricultural crop returns, and with the recognition of the urgent need for better veterinary service to poultry growers, this committee brought to the attention of the Committee on Education, the problem of better preparing our veterinary graduates to meet this need. Fundamentally, the graduate in veterinary medicine entering general practice is not trained in poultry to the extent that he is at home with the farm flock. His greatest handicap is the lack of adequate knowledge of breeding, feeding, and management, and too often he stands in poor contrast to the field layman who usually is quick to recognize that poultry diseases are largely controlled by correcting faulty practices in these three fields. This committee has referred this problem to the Committee on Education (See attached correspondence).

### POULTRY INFORMATION PLEASE

In December 1940, the Committee on Poultry Diseases of the U. S. Live Stock Sanitary Association held a symposium on poultry diseases at the annual meeting of that association. The proceedings were published in a 40-page separate, entitled "Poultry Information Please." By mutual agreement, this committee accepted the responsibility of selling 3,000 copies at cost, to veterinarians throughout the country.

We are pleased to report that the entire number was quickly disposed of to veterinarians in about 40 states. We are indebted to secretaries of many state and regional veterinary associations for their assistance in the broad distribution of this timely and worthwhile publication.

### PULLORUM DISEASE

The demand for pullorum-disease-free chicks is increasing. This is well shown by the fact that 96.2 per cent of the 16,000,000 birds in the National Poultry Improvement Plan were tested for this disease in 1941. This is in distinct contrast to the figure of 58.2 per cent the first year the plan was in effect.

### INFECTIOUS BRONCHITIS

This disease continues to take a terrific annual toll from the breeder, the hatcheryman, and the poultry grower. Commonly believed to be a disease of young chicks only, it should be stressed that when susceptible laying pullets become infected, egg production drops precipitously. Following recovery, many layers produce undersized eggs with poor shell texture. Mortality in layers is negligible, but the economic, egg loss usually is severe.

Since infected and recovered chicks, pullets, and hens quickly spread the disease to all susceptible contact chickens, the Committee believes that this disease should receive careful study nationally, and plans effected to reduce its high incidence.

### CROWDING

One part of the Committee's plan for reducing adult mortality focused attention on floor space requirements for laying chickens. It is estimated that last year 125 layers were housed in space adequate for only 100. This reduced floor space for heavy breeds from 4 square feet to 3.2 square feet per bird.

This year, there is an increase in adult poultry population of 16 per cent. With a negligible number of new poultry buildings constructed and with practically no conversion of other farm buildings to poultry use, it is readily seen that this fall and winter the poultry industry faces a new disease hazard. Furthermore, in addition to increasing the rate of mortality, crowding decreases egg production per bird. Both of these factors are in direct conflict with the needed increases in egg and poultry meat production, not only for 1942 but for the next several years.

### LATE FINDINGS IN POULTRY DISEASE RESEARCH

There is an abundance of poultry disease research to report.

*Pullet Disease.*—New Hampshire reports recovering a filtrable virus from the bloodstreams of birds acutely affected with pullet disease or blue comb. This disease is becoming increasingly important, and New Hampshire's discovery portends new hope for measures of control.

*New Respiratory Diseases.*—The Rhode Island station reports investigations on a chronic respiratory disease, clinically indistinguishable from infectious bronchitis, but one having a much longer incubation period (7 to 14 days) and of longer duration (4 to 8 weeks). Recovered birds were not refractory to infectious bronchitis.

California reports finding a respiratory dis-

ease of growing chickens which is becoming increasingly important in that state. The causative agent was found to be filtrable and distinguishable from infectious laryngotracheitis and infectious bronchitis. Nervous symptoms, including incoördination of the neck and leg muscles, and constant tremor of the body usually appear three days following the first respiratory symptoms.

*Paratyphoid.*—The Minnesota station reports that 20 Salmonella types have been isolated from turkey poults in that state. During incubation, the most common, *Salmonella typhimurium*, was found capable of penetrating the egg shell when the organism was mixed with sterile feces and smeared on one-third of the outside shell area. Injecting the organisms into 2-weeks-old living embryos resulted in less than 10 per cent hatching, as compared with 46 per cent hatch in the controls. The organisms remained viable in infertile eggs for 13 months, when the investigation was concluded. Only 3 (3%) eggs hatched out of 100, when cultures were introduced into the air cells, as compared with 22 (44%) of the 50 saline-inoculated eggs and 28 (56%) of the 50 control eggs which were not inoculated.

*Pullorum Disease Eradication from Turkey Breeding Flocks.*—California reports that it is possible to completely eradicate pullorum disease infection from a turkey flock in one year, but many factors must be considered. If an infected flock is to be used for production of hatching eggs, the following procedure should be carried out:

1) The initial test should be made when the flock is 4 to 5 months of age.

2) The flock should be divided into small groups on clean ground 2 weeks before testing.

3) All reactors should be removed promptly and disposed of immediately.

4) All feeding and watering equipment should be thoroughly cleaned and disinfected.

5) As soon as all reactors are removed from a pen, the clean birds should be taken to clean ground.

6) Infected pens should be retested at monthly intervals until no reactors are found.

7) When all groups have passed one clean test, then the entire flock should be retested one month later, to locate any possible new reactors.

8) Hatching eggs for breeding flock replacements should be obtained only from "free-on-first-test sources."

9) All hatching eggs for replacements should be hatched at a hatchery accepting only eggs of like status.

10) Rigid sanitation should be practiced at all times.

In a California project with many turkey flock owners participating, the results of the first year's test showed 50 per cent of the flocks infected with pullorum disease; the second year, 19 per cent infected; and the third year, only 3 per cent infected. These figures are for the first test in each of the three years. For the past two years, by following the above routine they were able to eliminate all infected birds and have the flocks 100 per cent free from pullorum disease at the start of the turkey hatching egg season. This past year, over 200 poults hatched from eggs supplied by participating turkey growers from 60 different sources were examined without a single case of pullorum disease being found.

*Coccidiosis.*—Wisconsin reports that the rise in blood sugar that is apparent during an attack of cecal coccidiosis can be maintained at a lower level by feeding a concentrated saline during the hemorrhagic phase of the disease. A progressive and rapid increase in weight following the administration of saline was attributed to increased water consumption.

Louisiana reports that sulfur prevents infection from *Eimeria tenella* the causative agent of cecal coccidiosis in chickens, by acting directly on the parasite. Several stations have reported previously that chicks were refractory to sporulated *E. tenella* oöcysts when the ration contained 2 to 10 per cent sulfur. Since the extended use of sulfur produces rickets in chickens, sulfur should be used with caution.

The Oregon station shows that a relatively small number of sporulated *Eimeria acervulina* oöcysts produces the same protection as daily doses many times this number. Susceptible pullets showed a loss in body weight and egg production when large numbers were given, but no fatalities could be attributed to this parasite.

Wisconsin reports that resistance equivalent to that noted in chicks which have recovered from a natural attack of cecal coccidiosis, can be produced by administering sporulated oöcysts which first have been attenuated by x-ray.

English workers report that 1 per cent ammonia in solution kills coccidial oöcysts. When ammonia, at the rate of 3 ounces to each 10 cubic feet of air space, was introduced into an infected poultry house, all oöcysts were destroyed in the droppings and litter.

*Enterohepatitis.*—A Maryland practitioner reports success in curing enterohepatitis in turkeys by administering 2 grs. of sulfanilamide per pound of body weight, twice daily for 5 days, followed by 0.5 gr. daily, for 7 days. The drug is administered in aqueous

solution via the vent, by means of a bulb syringe, using an 8 inch hard rubber nozzle. Further research in this field is suggested before this drug is accepted as a specific treatment for enterohepatitis.

New Jersey points out the increasing incidence of enterohepatitis in chickens, which makes its appearance 10 to 12 days following the use of fowl pox virus. It is believed that the protozoan is present in these normal appearing pullets, and becomes pathogenic when resistance is lowered by employing *chicken-strain* fowl-pox virus. This station recommends *pigeon-strain* fowl-pox virus be used in flocks where enterohepatitis has appeared following vaccination.

The Washington station reports further work on phenothiazine as a cecal worm (*Heterakis gallinae*) anthelmintic. It reports that two, five, and ten times the recommended therapeutic dose does not lower significantly the hemoglobin concentration of the blood of chickens.

*Hexamitiasis.*—Further work at the California station tends to incriminate the chicken as a carrier of *Hexamita meleagridis*, the causative agent of Hexamitiasis in turkeys, formerly called infectious catarrhal enteritis.

*Trichomoniasis.*—At the Beltsville research center, fever therapy was shown to constitute a successful treatment for the liver and cecal forms of trichomoniasis in turkeys. By placing the artificially infected turkeys in an air-conditioned cabinet, regulated at 104 to 106 F., with relative humidity at approximately 50 per cent, it was found that body temperatures rose to 111 to 112 F.; 83.3 per cent of the treated turkeys recovered, compared to 30.6 per cent of the controls.

*Blood Protozoan.*—Virginia reports investigations which shed additional light on the life history of the fly-borne protozoan which has caused considerable loss in turkeys in that state. Its staff concludes that when infected flies bite turkeys, the sporozoites of this parasite enter the blood stream, where they develop in the plasma.

*Tapeworms.*—Another piece of the tapeworm control puzzle has been provided by researches by the Zoölogical Division of the United States Bureau of Animal Industry. Raising the protein content of the diet from 13 to 26 per cent resulted in the tapeworm infested pullets making approximately the same weight gains as the noninfested controls. It is the opinion of the Committee that the practicability of these findings must be established in field trials, before such a practice can be recommended.

*Toxic Weed.*—Whorled milkweed was found to be toxic to turkeys by Colorado workers. Young turkeys fed 1 Gm. of milkweed per 100 Gm. of body weight exhibited toxic spasms within one hour, usually followed by death within 5 hours after feeding.

*Corn Cockle Poisoning.*—Corn cockle was toxic to chickens when it was ground and composed 2 per cent of the ration. Birds presented a listless and unkempt appearance with rough feathering, diarrhea, and characteristic lesions of cheesy material in the mouth and under the tongue. Respiratory rate and heart rate were decreased but body temperature and red blood-cell count were not affected.

*Gizzard Erosion.*—Maryland researches tend to show the wide distribution of gizzard erosion in day-old chicks. The survey of 87 lots of chicks from different regions, in 12 states, disclosed 74 per cent affected of 1,737 day-old chicks examined. The report shows that the inclusion of the yolk sac and its contents into the body cavity of the developing chick, plus the initiation of pulmonary respiration and the cessation of extra embryonic circulation, appear to be cumulative in its effect upon the occurrence and severity of gizzard lesions in day-old chicks. The report further shows that the severity of gizzard lesions in newly hatched chicks is related to the diet fed to the dam, although present nutritional knowledge is insufficient to provide more than partial protection against this disease.

*Inherited Disease Resistance.*—Workers at the Cornell station have shed further light on the practicability of breeding for disease resistance in fowls. Their four-year project on breeding from high and low susceptibles to neoplasms, give added weight to this valuable aid in improving viability.

*Mortality and Maturity.*—New Jersey reports on the comparative 10 months mortality of early and late maturing pullets. The figures were 34.43 per cent fatalities in the late maturing, and 14.29 per cent in those maturing early.

*Psittacosis.*—This disease has been diagnosed in chickens and in thiamin-deficient pigeons in this country and in pigeons in South Africa. The possibility of these domestic birds constituting sources of infection for man, adds a new public health angle to avian pathology.

*Omphalitis and Impetigo.*—Investigators in Utah report that there may be a relationship between staphylococcic impetigo in man and staphylococcic omphalitis in turkey poults. Organisms recovered from a human case routinely killed young poults within 18 hours, when subcutaneously injected near the navel. Although the evidence in this case is not conclusive, it suggests that avian pathologists be on the alert for the possible relationship between these two diseases.

*Deficiency Diseases.*—That borderline vitamin A deficiency may be partly responsible for

slow growth and development in commercial poultry flocks is suggested as a result of a study of the vitamin A reserves of the livers of birds submitted for autopsy. Evidence pointed to poor quality of alfalfa meals as being responsible. Another report showed that the reserves in the livers of diseased fowl are variable and, therefore, cannot be correlated with a specific avian disease.

Losses in vitamin A (carotene) of machine-dried alfalfa meal during storage has been determined to be as follows: stored in burlap or paper at —25 C., 10 per cent in 6 months; at —12 C., 14 per cent in 6 months; 30 per cent in one year; at —3 C., 50 per cent in 6 months; at —room temperature, 66 per cent in 6 months;; at —outdoor temperature, 60 per cent in one year; at —37 C., 38 per cent in 16 days; at —60 C., 66 per cent in 16 days; and at —80 C., 98 per cent in 16 days. Pelleted meal lost carotene at the same rate as loose meal. The carotene was relatively stable when sealed in tin cans *in vacuo* or under nitrogen.

The blood-clotting time and the prohtrombin content of the day-old chicks is dependent upon the amount of vitamin K supplied the breeding hen. Approximately 2 per cent of alfalfa leaf meal or dried cereal grass supplies sufficient vitamin K to produce chicks with a normal blood clotting time and prothrombin content.

Since sulfur aids in preventing coccidiosis in chicks, provided they have access to direct summer sunlight, it was tried throughout the winter months with pullets confined or exposed to whatever sunshine was available. Even though the ration contained adequate vitamin D in the form of cod liver oil, the birds showed typical vitamin D deficiency as evidenced by egg paralysis, poor egg shell texture, reduction in hatchability, and chondrodystrophy.

The vitamin D requirement of White Pekin ducklings was determined to be approximately the same as those of chicks; that of turkeys was ascertained to be less than previously reported. Other work indicated that the level of vitamin D in the turkey hens' ration is important during the first two weeks of poulthood and thereafter the level in the poults' ration is greater. Turkey egg production and hatchability were not improved by adding more than 100 Association of Agricultural Chemists units per 100 Gm. of feed.

It is known that an excessive amount of cottonseed meal reduces hatchability. It has recently been established that crude cottonseed oil does likewise;; refined oil does not. Vitamin B (pyridoxine) is required by chicks in an amount between 300 and 500 micrograms per 100 Gm. of feed according to a recent publication.

An excessive calcium content was found to lower the biological value of rations for laying hens. Another report showed that an excess of bone meal or oyster shell diminished the availability of manganese through adsorption of the latter.

### RECOMMENDATIONS

The committee offers the following recommendations for your consideration and approval:

1) That each general practitioner recognize and accept a definite responsibility in furthering this committee's veterinary program of reducing adult mortality in fowls.

2) That each general practitioner secure a number of copies of the program and by their distribution bring the details of the program to the attention of their county agents, teachers of vocational agriculture, 4-H Club leaders, feed dealers, hatcherymen, and general farm clients.

3) That each general practitioner point out to leaders of the poultry industry in each community, the hazards resulting from reducing floor space of layers below requirements, and that if national egg requirements are to be met, unusual attention must be given to the control of disease when layers have less than 3½ to 4 square feet of floor space per bird.

4) That veterinarians urge all hatcherymen to house all newly hatched chicks in a room used only for that purpose, and that customers and visitors be excluded from this room. A glass panel front makes possible the display of salable chicks.

5) That avian pathologists be on the alert for outbreaks of equine encephalomyelitis in pheasants and pigeons and psittacosis in chickens and pigeons, because of the public health aspects of these birds being reservoirs of infection.

6) That avian pathologists be urged to look for cases of hexamitiasis in turkeys so that data concerning its geographic distribution will be available.

7) That, because of the frequency with which tuberculosis and gapeworms are being found in pheasants and quail, veterinarians recommend to breeders of game birds that they discontinue the practice of using chicken foster mothers and institute artificial methods of hatching and brooding.

8) That, because so much traffic between this country and the Pacific area exists today, diagnosticians should be on the alert for evidences of Newcastle disease. This disease is not known to exist in this country at the present time. Since respiratory symptoms are seen in Newcastle disease, there is danger that it might be confused with native respiratory

diseases and thus become established in this country.

9) That the hazard of disease dissemination brought about by shipping diseased chickens and turkeys, be studied and steps taken to provide shipping means to avoid this spread.

s/CLIFF D. CARPENTER, *Chairman*,

F. R. BEAUDETTE
C. A. BRANDLY
T. M. DEVRIES
E. M. DICKINSON
K. W. STOUDER
F. C. TUCKER.

## Parasitology

The report presented by this committee at the Indianapolis meeting, August 1941, included plans for future activities. The need for a comprehensive survey of the parasitisms of domestic animals in North America was indicated by the results of a questionnaire addressed to interested veterinarians. In order to secure worth while data for this project it was necessary to recruit a large group of reporters situated strategically and with facilities for collecting factual information in the field of general veterinary practice.

The vast store of data on animal parasitisms in the United States collected and filed by the federal Bureau of Animal Industry should furnish an adequate backlog of material for the projected survey. Unfortunately, much of the clinical information which concerns the common parasitisms of farm animals is not observed by the federal agents or reported to these officers.

The local practicing veterinarian is the only trained observer who is given the opportunity of seeing the devastating effects which result from the greatest proportion of uncontrolled parasitisms of the farm animals. In spite of the considerable publicity which has been given to the disease picture and to the losses resulting from parasitic infections, the average farmer is reluctant to accept a diagnosis of worm, protozoal or arthropodan parasitism as the cause of unthriftiness, stunting, and deaths in his livestock.

It is practically impossible in an experimental project to reproduce the conditions leading to an outbreak of parasitic disease as it occurs on the farms. For this reason an attempt is being made to get first hand case reports from practitioners.

It is the aim of the Committee to collect and publish the pertinent facts relating to uncommon as well as common types of animal parasites and the diseases caused by them. This would include the distribution, common and uncommon hosts, pathogenicity, and practical methods of control. The distribution of authoritative information of this sort is quite as important as the collection of facts, and our plans includes a general distribution to all practicing veterinarians. A project of this magnitude requires considerable time and effort. The Committee can only report progress at this time.

Members of the Committee on Parasitology are scattered widely about the country, living in such distant regions as Oregon, Texas, Alabama, Kansas, Ohio, New York and the District of Columia. The advantage of presenting a broad view of the subject is somewhat offset by the difficulty of arranging a conference for the exchange of information and opinion. Teaching responsibilities incident to the accelerated schedules of the veterinary colleges and the unusual difficulties of travel have operated effectively to prevent a conference this summer. The members of the Committee are good correspondents and a considerable fund of information has been collected.

Rather than present a digest of these reports to this assemblage it has seemed to us to be of greater importance to mention certain trends of thought respecting parasitology as a science. The one subject which is mentioned most consistently concerns methods and effectiveness of course work in veterinary parasitology as it is organized in the curriculums of the American colleges. The criticisms have not been directed toward particular courses or colleges but at the general inadequacy of instruction.

Regardless of the school from which he graduated or the date of graduation it is the common belief of the practicing veterinarian that his knowledge of parasitology is fragentary, superficial, and inadequate.

Evidence to support this general opinion has been furnished the Committee from the correspondence with administrative officers of various state and regional animal disease control agencies. These comments were not solicitated as answers to inquiries but developed spontaneously in the general discussions. For this reason the Committee believes that critical study of the status of veterinary parasitology in the curriculums of the colleges of veterinary medicine in North America should be instituted and one member of the committee who has no affiliation with the teaching institutions (Dr. B. T. Simms) has been delegated to investigate possibilities of remedying the situation.

s/D. W. BAKER, *Chairman*

G. DIKMANS
R. E. REBRASSIER
J. N. SHAW
B. T. SIMMS
H. L. VAN VOLKENBERG
J. H. WHITLOCK

## Nutrition

The Executive Board of this association at their meeting on Dec. 2, 1941, received a recommendation for the establishment of a standing committee on nutrition. Since a standing committee could not be appointed

without a change in the by-laws, the Board approved the recommendation for a special committee until such time as the necessary changes could be made. President Jakeman then appointed the committee as at present constituted.

The Chairman has corresponded with the Committee members and we are of the opinion that the work of this committee will not infringe upon that of the Joint Committee on Foods.

Research in nutrition has uncovered a great body of new knowledge in recent years. Much of this has a very important bearing on the well being of our domestic animals and their economic production.

Great discoveries made in biological science laboratories with the Drosophila fly, white rat, or guinea pig will ultimately reach the ken of those called upon to advise regarding the well being of our domestic animal population. This is because new knowledge obtained through experiments with these small species usually constitutes universal biological laws applicable to all animal life. Species variations complicate the picture seriously and require time for their elucidation.

Your committee is cognizant of the general lack of nutrition knowledge among the profession. The practitioner should be able intelligently to evaluate farm feeding programs and problems. He should be able to recognize the various syndromes with species variation caused by nutritional deficiencies. These should be suspected early, as soon as the well-being of the animals becomes affected and before many frank cases or losses have occurred. The relationship of vitamins and hormones and their bearing on the physiological reproductive processes are matters of great importance to livestock production. Armed with such knowledge we become masters of situations in the mass handling of herds and flocks where hopeless confusion existed before such information was available.

The profession must be kept informed in an organized way on the still unfolding knowledge in this science.

It may finally become necessary to have a sectional program on nutrition. For the present, however, it is suggested that the committee function by getting at least one paper on each section dealing with a subject on animal nutrition. Even the surgeon will be aided by knowing that vitamin A may be associated with delayed healing of epithelial surfaces; vitamin B with intestinal atony; vitamin C with wound healing and bleeding; vitamin D with tetany and granulating wounds; vitamin K with hemorrhage.

The national shortage of certain vital feed ingredients due to war conditions and how to meet it is pertinent.

Veterinarians can aid in nutritional investigations in our experiment stations. To a veterinary research group, a biochemical laboratory may be just as essential as a bacteriological laboratory.

One member of the committee, M. L. Morris, believes that the committee should coöperate with various integrating committees being set up by the National Research Council, the American Veterinary Medical Association, the Livestock Sanitary Association, the Society of Animal Production, the Dairy Science Association and the Poultry Science Association. When this committee's efforts are coördinated and the message carried to the members of our profession in the field of practice, he believes it will be a great accomplishment.

Another member, C. D. Carpenter, believes that for the duration of the war and for a few years thereafter, animal nutrition will be of greater economic importance to human welfare than anytime in past history. With this thought in mind, our committee is of the opinion that steps should be taken to develop a program designed to aid the general practitioners with nutritional problems based on present science of nutrition and recognized feeding practices.

Since the American Veterinary Medical Association, through the efforts of President Jakeman, has taken the lead in organizing an inter-association movement on animal disease and productive efficiency, nutrition assumes a larger importance in veterinary medicine.

If at all possible, it is suggested that a lapse of another year be avoided before this committee brings some specific information and recommendations to the attention of the general practitioner.

s/G. H. HART, *Chairman*

C. D. CARPENTER — M. L. MORRIS
H. C. H. KERNKAMP — H. SCHMIDT

## Rabies

In the report of the Special Committee on Rabies last year, it will be recalled that it was recommended that the American Veterinary Medical Association approve the move to coördinate the work of the rabies committees of the United States Livestock Sanitary Association, American Animal Hospital Association, and the American Veterinary Medical Association, through participation of these and other groups represented on a committee which has come to be referred to as the National Committee on Rabies.

Two meetings of the National Committee have been held since last year's meeting of the American Veterinary Medical Association, one on Nov. 6, 1941 and the other on Apr. 24, 1942. Unfortunately, it was not possible for

the two representatives of the American Veterinary Medical Association to be present at the November meeting but both were present at the meeting held in New York on Apr. 24, 1942.

At these meetings the problem of rabies control and the best means by which it can be attained on a national basis were thoroughly discussed by the members of the committee present. At the April meeting one of the United States Bureau of Animal Industry representatives on the committee was commissioned to determine what would be necessary in the way of legislation should the control and eradication of rabies among livestock be undertaken on a national basis. He was also requested to include in his report a suggested memorandum of understanding between the States and the Bureau of Animal Industry, United States Department of Agriculture, governing the coöperative undertaking. This report is to be made at the next meeting of the National Rabies Committee which has not yet been held or called.

In view of the above, your Special Committee on Rabies is marking time and will have no recommendations to make until after a meeting or meetings of the committee of the joint organizations. After such meeting or meetings, and consideration of material and reports presented and action taken, your committee will then be in a better position to make recommendations to this association.

s/R. A. KELSER, *Chairman*

L. G. CLARK
C. E. COTTON
JOHN H. GILLMAN
W. A. HAGAN
J. V. LACROIX
H. W. SCHOENING

## Joint Committee on Foods

The report of the Joint Committee on Foods ending with the period July 31, 1941, was presented to the Board of Governors, the Executive Board and the House of Representatives, at the Indianapolis meeting of the AVMA. Exclusive of exhibits, it was published in the October 1941, the JOURNAL p. 341. A revised nscal year for this committee has been established from July 1 through June 30 of each year. This report, therefore, is for that period beginning Aug. 1, 1941 and closing June 30, 1942.

During this 11 month period the Committee held seven meetings—four at Indianapolis, Ind., and three at Chicago. In addition to the regular committee meetings, the executive secretary of the Committee, M. L. Morris, attended twelve meetings or conferences, including the following:

War Production Board, Washington, D. C.

National Institute of Health, Washington, D. C.

Federal Security Agency and the Food & Drug Administration, Washington, D. C.

American Feed Control Officials, Washington, D. C.

American Institute of Nutrition and Meetings of the Federated Societies for Biology and Medicine, Boston, Mass.

American Humane Association and American Red Star Animal Relief.

Cornell Conference for Feed Manufacturers, Ithaca, N. Y.

The Nutrition Foundation, New York.

Good Housekeeping Bureau, New York.

The Committee was represented through its executive secretary at two meetings with the health supplies branch of the War Production Board, Washington, D. C. We were requested to present a brief for the information of this board embodying recommendations for the necessary levels of vitamin A in manufactured dog foods.

At the outbreak of hostilities in Europe the American Humane Association requested the Joint Committee on Foods to keep in close touch with the dog-food problem in the British Isles. We were asked to provide information for distribution to animal owners in America dealing with the emergency feeding of pets under war restrictions and how animals might be nourished in areas which were subjected to bombing or other military operations. Thus far, one release has been prepared entitled "Vitamin A Content of Animal Feeds Restricted by War Production Board. Suggested Program Outlined by the Joint Committee on Foods." Work is also in progress with the American Humane Association and the American Red Star Animal Relief planning for the dissemination of authoritative information to pet owners to aid them with feeding problems which arise from wartime restrictions on ingredients, containers and transportation.

When additional complications developed and the feeding of pets became more involved, a second presentation entitled "Feeding of Pets in Wartime" was prepared and read before the American Animal Hospital Association at the 1942 Chicago meeting. This information was published in the July issue of the North American Veterinarian and also in several trade magazines. All the foregoing material was prepared, organized and presented by the Committee's executive secretary.

We were also invited to serve in an advisory capacity to the National Institute of Health at Washington, D. C. This service was in connection with the feeding of dogs used for experimental purposes. The diets of such animals are exceedingly important as the results obtained must provide data which is accurate and void of nutritional complications.

In addition to publications previously men-

tioned, the following articles have been published during this period:

Survey on Dog Feeding—*North American Veterinarian*—Jan. 1942—pp. 47-48.

Survey on Dog Feeding—JOURNAL OF THE AVMA—Jan. 1942—pp. 90-91.

Survey on Dog Feeding—Part II—JOURNAL OF THE AVMA—May, 1942—pp. 416-418.

Survey on Dog Feeding—Part III—JOURNAL OF THE AVMA—July 1942—pp. 30-32.

Four meetings of the Joint Committee on Foods were held at Indianapolis, Ind. in August, 1941. Two were meetings of the Committee and two were joint conferences of the Committee and manufacturers of approved foods.

A. E. Wight of the Bureau of Animal Industry, Washington, D. C. was selected as the fifth member to complete the personnel of the Joint Committee on Foods and M. L. Morris of New Brunswick, N. J. was employed for a period of seven months as executive secretary.

The American Animal Hospital Association treasury, A. R. Theobald, treasurer, was designated as the official depository for Committee funds and authorization for obtaining a $5,000 bond was provided.

The contract between the Associations and the manufacturer, together with rules and regulations, were studied in detail, amended as required, and adopted as the rules, regulations and contracts governing the functions of the Joint Committee on Foods.

Subsequent meetings of the Committee were held September 26 at the Hotel Stevens, Chicago; December 3 at the Hotel LaSalle, Chicago; and June 20, Hotel Stevens, Chicago.

The September and December meetings were executive meetings of the Committee and the June meeting was a joint conference with the manufacturers of approved foods.

At the September meeting a newly-designated seal was adopted as the official emblem of the Joint Committee on Foods of the two veterinary Associations.

Dr. M. Wight Taylor, assistant professor of biochemistry, New Jersey Agricultural Experiment Station, was employed on a part-time basis to aid with the reviewing of test data and to serve as biochemical consultant to the Committee.

An official method for the payment of all accounts was adopted providing for a quadruplicate voucher system. All moneys are paid out by the treasurer on receipt of properly executed vouchers. A voucher to be properly executed must be signed by the executive secretary and the chairman of the Joint Committee on Foods and approved by the treasurer, and must be accompanied by itemized bills or statements.

One of the most important actions taken at the December 3 meeting was the Committee's decision to add to its testing technique by using dogs as test animals, this work to be conducted under the immediate supervision of the Committee. Authorization for obtaining necessary facilities and personnel to carry on this work was provided. In the past, the dog feeding tests have been conducted by veterinarians at animal hospitals throughout the country. Although this procedure served a useful purpose the Committee decided that the animals should be owned by and fed under the direct supervision of a Committee representative so that control diets could be used for comparative purposes and thus produce a more satisfactory type of test data. The dog feeding work has been in progress since January, 1942.

A special joint conference of the Committee and manufacturers of approved foods was held in Chicago on June 20. With the numerous government restrictions on ingredients and containers, it was the Committee's desire to ascertain directly from the manufacturers whether they would be able to obtain sufficient quantities of satisfactory ingredients to enable them to maintain during the next fiscal year the standards of quality required for the seal. All manufacturers of approved foods expressed the opinion that they should be able to maintain the standard for at least another six months. The Committee decided, therefore, to renew the contracts for a six months period subject, however, to renewal for an additional six months provided ingredients and containers are available.

M. L. Morris was reemployed as executive secretary for the next fiscal year and M. Wight Taylor was continued as biochemical consultant.

An exhibit portraying the present activities of the Joint Committee on Foods was authorized for the 1942 annual meeting of the AVMA in Chicago.

During this 11 month period four nonapproved foods have been tested. Two seals have been issued—one to Ken-L-Biskit, and one to Ken-L-Ration, both products manufactured by the Ken-L-Products division of the Quaker Oats Company. In the case of the other two foods the Committee recommended revision of the formulae, improvement of the products, and re-submission for additional testing. We have also received two additional applications for testing of new products. One has been cancelled due to inability to obtain tin containers; testing is still in progress on the other.

Two companies have terminated their contracts—The Kennel Food Supply Company of Fairfield, Conn., and the Hill Packing Company of Topeka, Kan. Marketing problems were fundamentally responsible.

All plants manufacturing approved dog foods have been inspected within the year by a licensed graduate veterinarian who is a

member of the AVMA. His report is on file with the Committee.

SUMMARY

The chemical, biological and dog feeding tests are being improved and expanded in scope. Plant and ingredient inspection is being effectively applied. Censorship is being maintained over label and advertising claims. Present day knowledge in the field of animal nutrition is being disseminated for the benefit of the veterinary profession and the animal owning public. The Committee is coöperating with other agencies to aid in fostering relationships which will be mutually helpful and beneficial to all concerned. The professional relationship of the veterinarian and industry is being effectively promulgated.

s/J. G. HARDENBERGH, *Chairman*

C. W. BOWER — S. W. HAIGLER
O. V. BRUMLEY — A. E. WIGHT

## Nomenclature of Disease and Vital Statistics of Domestic Animals

The Special Committee on Nomenclature of Disease and Vital Statistics of Domestic Animals met for conference at the Morrison Hotel in Chicago on Dec. 2, 1941. The committeemen desire to express their appreciation of the action taken by this body (House of Representatives) and the Executive Board at the 78th Annual Meeting held at Indianapolis in 1941, in regard to increasing its personnel. As a result of this action, the work of the committee has been reallocated and assigned to those committeemen best informed and equipped to contribute most from their particular sectors.

Some of the sections of the report are about completed, but it is believed they should be withheld until most or all of them have been brought up to the status. It is recommended that the committee be continued.

s/H. C. H. KERNKAMP, *Chairman*

F. R. BEAUDETTE — I. A. MERCHANT
M. A. EMMERSON — H. W. SCHOENING
W. H. FELDMAN — B. J. SCHWARTZ
G. H. HART — F. THORPE, JR.
E. A. WATSON

## Veterinary Preparations, National Formulary Committee

This report will be brief in that it largely constitutes an announcement that the National Formulary, Seventh Edition, completely revised and considerably enlarged, became available for distribution in June of this year and becomes official from Nov. 1, 1942.

Publication of the seventh edition of the National Formulary marks the first step in the continuous revision program which has been adopted by the American Pharmaceutical Association in order to keep this compendium up-to-date with the extensive and rapid advances in pharmacy and medicine.

The first edition was published in 1886 and subsequent editions were issued every ten years as has been true since 1820, of the United States Pharmacopoei. However, following the publication of N.F. VI, official June 1, 1936, it became apparent that ten-year revisions were no longer sufficient and that continuous revision by issuing supplements was necessary. Hence, a revision program was immediately begun with the thought that the seventh edition should be issued as nearly as possible at the end of a five-year instead of a ten-year period. It is also expected that N.F. VIII will be published three years hence, in 1945, unless the war emergency interferes.

It was in connection with N.F. VI, that a committee representing the American Veterinary Medical Association was first invited to coöperate in a revision of the National Formulary. In 1939, in the preparation of N.F. VII, a similar invitation was extended and a committee officially listed as the "Committee on Veterinary Preparations" was appointed for a ten-year period. This committee was authorized to coöperate in the new program of continuous revision and more frequent editions. N.F. VII represents the first of these editions.

Fifty-one articles official in N.F. VI are not included in N.F. VII. The majority of these are special ampul and tablet preparations. Ninety-seven articles have been added to N.F. VII. Seventy-one of these articles were official in U.S.P. XI but are not admitted to U.S.P. XII, now in process of publication. They were added to N.F. VII in order to provide standards of purity, quality, and assays for potency necessary to their rational use. An important feature of the new edition is a greatly augmented section on materials and preparations used in the clinical laboratory in diagnostic examinations.

Many of the additions to N.F. VII are important drugs or preparations in veterinary medicine. One new inclusion, peculiar to veterinary usage is phenothiazine with an accompanying monograph, including standards of purity and quality and average dosage for various domestic animals. At the suggestion of our veterinary committee a statement was also included as follows: "Caution: Animals should be treated with phenothiazine only under the advice of a veterinarian." It will be recalled that similar consideration was given to veterinary medicine in N.F. VII, when drugs such as arecoline, kamala, gam-

boge, and several others important in veterinary medicine were included. This is important when it is recalled that drugs or pharmaceutical preparations manufactured and sold for medicinal purposes, if included in the N.F. or U.S.P., must meet the standards specified by these official publications.

In closing, it should be stated that the relations of our veterinary committee with the major Committee on National Formulary have always been most cordial and our suggestions given careful consideration. It has been the policy of the veterinary committee in both N.F. VI and the current N.F. VII not to recommend too rapidly, inclusion of drugs and preparations peculiar to veterinary medicine. It is our belief that with the proposed more frequent revisions of the National Formulary, veterinary medicine will be given whatever consideration our situation justifies and to the extent we believe warranted.

s/H. D. BERGMAN, *Chairman*
R. F. BOURNE
P. W. BURNS
C. F. CAIRY

## Bang's Disease

(Bovine Brucellosis)

Your committee is pleased to report that progress has been made in the control and eradication of Bang's disease during the past year. An average of approximately 600,000 cattle has been tested each month in the federal-state coöperative program. A little more than 50 per cent of such tests were conducted in herds under the area plan of control. There are now 549 counties in 24 states that are classified as modified accredited Bang's disease-free areas. This is an increase of 158 such counties during the year. Testing under the area plan is now being conducted in about 160 additional counties. North Carolina is the first state to be officially designated as a modified accredited Bang's disease-free area. This state also was the first in which all counties were declared practically free from bovine tuberculosis in 1928. Funds for state indemnity in Bang's disease work are available in all states except California, Colorado, Indiana, Massachusetts, Nevada, Oklahoma and Texas. Provision for such indemnity funds has now been made in Puerto Rico.

Calfhood vaccination was made a part of the Bang's disease control program in December, 1940. Since that time arrangements have been made to incorporate calfhood vaccination in the official program for the control of Bang's disease in 42 states, and up to July 1, 1942, 128,378 calves have been vaccinated under such official plans. Calfhood vaccination is fitting into the program in many states, especially in herds where there is considerable infection. In certain states, in herds where the hazards of infection are great, vaccination of calves in noninfected herds is being undertaken. There is, however, a tendency on the part of some veterinarians and cattle owners to misuse calfhood vaccination contrary to the control procedure as recommended by the Bureau of Animal Industry, United States Department of Agriculture.

The methods and procedures in use vary in different sections of the country and in accordance with the conditions and needs of individual herds.

It does not seem feasible for your committee to attempt to outline procedures in detail because they probably cannot be applied uniformly.

Your committee recommends the following broad principles for use during the period of the war:

1) That control and eradication efforts based on the agglutination blood test be continued. During the present emergency, the judicious retention of reacting animals may be advisable in certain infected herds provided they are high producers or represent valuable blood lines, and further provided that the retention of such reacting animals does not grossly jeopardize the total productive capacity of such herds by infecting clean cattle. In such instances, the vaccination of calves may be considered in herds where indicated.

2) That more emphasis be placed on appropriate herd management and sanitation practices which have been demonstrated repeatedly to have much value for lessening the production losses in infected herds by decreasing the spread of the disease within the infected herds.

3) That the area-plan of control be continued and expanded to areas where it is feasible.

4) That we approve and encourage calfhood vaccination under official supervision as recommended by the United States Bureau of Animal Industry as an *aid* to control efforts and discourage its use as the sole means for the control of Bang's disease. The ultimate objective in all cases should be a clean, noninfected herd in which the mature animals are negative to the agglutination blood test for Bang's disease.

The cattle industry of this nation has been developed through the years around the philosophy of living entirely without many of the most destructive diseases of cattle that are prevalent in many other countries of the civilized world. The current war is bringing about certain situations which tend to force a partial abandonment of this philosophy of livestock sanitation in favor of one based on

the principle of getting along the best way we can with such diseases. We can anticipate that further trends will develop, if the war continues, for the sake of false economy in governmental expenditures, unwarranted conservation of diseased animals for food, etc. Such trends tend to make it more and more difficult for the cattle industry to maintain its past and present status as regards disease control. Your committee feels that we should resist, with all the intelligence and forces at our command, all policies and trends which are apt to result in abandonment of the highly desirable eventual objective of eradicating Bang's disease. We should not lose sight of the fact that cattle infected with Bang's disease are usually unprofitable whether or not our country is currently engaged in a war. We should guard against the possibility of losing the ground gained and the money invested in Bang's disease control.

"BRUCELLOSIS" RECOMMENDED

Your committee recommends that both the term Bang's disease and brucellosis be recognized as the official nomenclature for Brucella infections in cattle with the view that eventually brucellosis be accepted as the official designation for this disease in cattle. The term Bang's disease should not be discarded promptly because of legal considerations and the familiarity of livestock owners with it. The term brucellosis, referring to Brucella infections in all species, is rapidly gaining favor with various interested groups of scientists and others and therefore, should receive official recognition by this association at this time. It is recommended that in the future this committee be known as "Special Committee on Brucellosis." Thus the committee would officially concern itself with Brucella infections in various species of animals and not be limited to considerations of the disease in cattle.

During the year there has developed more tangible official recognition of the fact that Brucella infections cause disease in a variety of species of animals and man; and that these diseases in the different species are not unrelated. The Congress of the United States, at the request of Hon. Claude Wickard, secretary of agriculture, appropriated a fund of money for research with brucellosis in swine.

The official recognition in December 1940, of calfhood vaccination as an aid to the control of Bang's disease seems to have been followed by an appreciable decrease in the amount of research being conducted with this disease in this country. This is regrettable. Your committee considers it timely to warn against a growing tendency on the part of many veterinarians and cattle owners to consider the problem of Brucella infections as satisfactorily solved and recommends that further research is necessary on all phases of the problem, particularly along the line of immunization procedures.

s/C. R. DONHAM, *Chairman*

CHAS. P. BISHOP — ADOLPH EICHHORN
HUGH E. CAMERON — WALTER WISNICKY

## The Interstate Shipment of Livestock by Truck

This committee has given the Interstate shipment of Livestock by truck intensive and prolonged consideration, and being mindful of the War emergency that prevails in the country at this time, and, taking into consideration the priorities that exist relative to trucks and tires and in full recognition of the unknown conditions that may exist after the war, is of the opinion that this is not a judicious time to make recommendations.

s/J. L. AXBY, *Chairman.*

C. E. FIDLER

## Representative to the National Research Council

The annual meeting of the Division of Medical Sciences of the National Research Council was held in Washington on April 30, 1942. This was the first occasion of your representative attending a meeting of the Council as representative of the AVMA.

The agenda included an exhaustive report of the chairman in which primarily the importance of the activity of the National Research Council in the present emergency was stressed. As a matter of fact, a great part of the meeting was devoted to the reports of the Army and Navy representatives on the organization and activities of our armed forces with regard to the prevention of diseases and accounting for the organization as it functions in this emergency.

The report of other committees followed which embraced their activities in the past year. It was decided to discontinue the Committee on Medical Problems Common to Animals and Man, as no report was issued by this committee. However, in view of the fact that no funds were available for the functioning of this committee, the inactivity of the committee is apparent.

In a communication dated Apr. 22, 1942, from Mr. Robert F. Griggs, chairman of the Division of Biology and Agriculture of the National Research Council to Dr. R. M. Bethke, president of the American Society on Animal Production, suggestion was made for the ap-

pointment of a Committee on Animal Health and Disease to supplement the activities of the Committee on Animal Nutrition. Your representative recognizes the importance of such a committee and addressed the president, the secretary of the Association and the president-elect of the AVMA for their opinion and suggestions. No reply to these inquiries has been received up to the present time and it is assumed that a discussion of this important representation on the Council was deferred until this meeting of the AVMA for such action as might be advisable.

It is suggested that by appointing such a committee, it would coördinate on problems which are important in our effort to protect the livestock industry in this emergency. Furthermore, it is also evident that steps might have to be taken even before the war is concluded on the restocking of the much depleted livestock population in the various countries and such effort will necessitate sound advice not only with regard to the method of protecting the livestock prior to exportation from this country, but also suggestions for the organization of procedures to prevent infections along the lines developed in the United States.

Such a committee, of course, could also collect data and assign research for the prevention and treatment of infectious diseases which are responsible for losses. While unquestionably the organization of the United States Bureau of Animal Industry is in position to deal with most of the problems pertaining to disease control, a committee representing the various activities of the veterinary profession could effectively coördinate the effort.

With this in view, it is suggested that the necessary steps be taken by the AVMA to appoint such a committee and endeavor to obtain funds for the proper functioning of this committee. The writer, who had an opportunity of discussing this matter with Mr. Griggs, was assured that the Council would pay at least the traveling expenses of the committee.

It is respectfully recommended, therefore, that these suggestions be offered to the Executive Board for their response and action.

S/A. EICHHORN.

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## Representative to the Horse and Mule Association

The Horse and Mule Association of America was organized to aid and encourage the breeding, raising, and use of horses and mules. That work has been carried out consistently during the twenty-two years of its existence. The twenty-second annual meeting was held here in the Palmer House on Wednesday, Dec. 22, 1941.

The work done during the past year has centered along the line of the work done heretofore. It must be recognized that we cannot compel men to use horses and mules. It is strictly an educational problem, a problem of convincing them that it is to their own advantage, in the long run. It is an advantage to the land and fertility of the soil, especially in the case of the small farmer, from the standpoint of finances. Most farms require a team. At this time it seems especially necessary to raise good horses, for we think they will be in great demand, if conditions continue as to the present time. The horse and mule situation looks much better than it has for several years.

The shortage of material will force a curtailment in production of tractors and tractor repair parts. We have every reason to believe there will be a decided advance in the demand for horses and mules. It has already manifested itself in most markets. Workable mules and horses of a good type have advanced 20 to 30 dollars per head during the past few months.

If the shortage of rubber continues, we may all have to swing back to horse use for transportation in short hauls. Such a demand would wipe out our surplus, which is really not a surplus, for figures show that we have not produced more than the number we need for actual replacement purposes for some time.

The Association has counter attacked some vicious advertisements by tractor corporations. It sent out many letters, leaflet No. 258, and much printed matter has been sent out through the office during the past year. There has been much correspondence coming from stallion and jack owners, with a great demand from their associations for free information about horses and mules.

At no time in the history of the Horse and Mule Association has there been greater interest taken in the light horse and pleasure horse. From Feb. 15 to March 29, 1942, the John Herron Art Museum at Indianapolis, Indiana held an exhibition of "The Horse in Art," presenting some of the ways in which the horse has been seen and interpreted in different mediums, in different lands, in different times. Paintings and statues were loaned to the exhibit from California to New York. This was sponsored by the Indiana Saddle Horse Association and one evening was set aside for their members exclusively, at which time there was given a comprehensive lecture on the horse in art. During the time of the exhibition, thousand of people availed themselves of the opportunity to view this unique art collection.

The annual "Horse Round-Up," sponsored by the Indiana Saddle Horse Association, the

greatest horse meet of its kind in the world, will be held as usual in Indianapolis, September 19 and 20. Last year, there were well over a thousand horses and riders in the parade. All classes of light horses, including westerns will be shown.

Nineteen years of pulling contests have established their worth and they have been held in many states, doing for the draft horse what races do for the race horse, determine merit by actual test. The contests were started for tests and educational purposes. They have been valuable attractions at fairs.

The *Country Gentlemen* of October, 1941 ran an illustrated feature article about the pulling contests which stated that concession managers at county fairs termed pulling contests "worse than a cloudburst" in drawing people away from the concessions—that everybody left for advantageous locations frim which to view the pulling contests. "Concession business" was dead till the contest was over.

This great interest in pulling contests has been fortunate for horsemen in giving them substantial prizes to compete for and to encourage owners to seek out, purchase and train exceptionally good prospects. These demonstrate the value and type of soundness and proper breeding for long, arduous labor, encourage horsemanship in fitting harness and shoes, and demonstrate the maximum pulling capacity of the horse and mule.

Various states are creating state associations of horsemen. Many small and county clubs have been formed all over the country. The Virginia Horsemen's Association was formed last Fall, and they called on the Horse and Mule Association for 1,500 copies of literature to pass out to the breeders through the state.

Harness manufacturers are also distributing this material through the retail dealers down to the farmers. This results in more queries coming in. Recently, the Association sent out material bearing on the whole horse and mule situation, emboding in leaflet No. 263, Mr. Linn's statement to all the banks in Nebraska, Iowa, and Indiana. Letters have come from the bankers saying they think the materials should be in the hands of the farmers. In many communities and in many cases, they give the name of farmers and ask that materials be sent to them for distribution. Additional booklets are needed annd will be prepared and issued as rapidly as means will permit.

The light horse is growing in popularity all the time. Many clubs are being formed all over the country, many small horse show associations are being organized and shows held throughout the country. These shows have recently proved to be a most pleasant successful means for raising large sums of money for Navy Relief and other service organizations. Many volunteer civil horse patrols have been organized. Every county in our state, through our Indiana Saddle Horse Association, has been organized. In the state office of the Association there is a map showing each county patrol headquarters. There is also a list of the county patrol leaders, with addresses and telephone numbers, instantly available. Our horsemen might well be organized for such emergencies as may arise, all over the country. The Green Mountain Horse Association is particularly interested in such organizations and was one of the first to suggest them.

Great interest is being taken in the small horse shows throughout the country. Since most of the state fairs have been called off, this has helped the small ones. Breeders and showmen are seeking a place to exhibit their show stuff now. Your reporter has judged many small shows and county fairs already this season.

The Association has been stressing every point to improve the conditions of all phases of the horse industry in America. It needs our support and the support it has given us has been valuable to every farm veterinarian in the country. The Horse and Mule Association earnestly solicits our support in the future, as in the past.

s/T. A. SIGLER.

## Representative to the American Association for the Advancement of Science

From September 22 to September 27, inclusive, the American Association for the Advancement of Science participated in the fiftieth anniversary celebration of the University of Chicago. This was the 109th meeting of the Association and the fifth in Chicago. The section on Medical Sciences (N) presented a comprehensive and distinguished symposium on aerobiology.

The 110th meeting of the Association was held in Dallas, Texas, Dec. 29, 1941, to Jan. 3, 1942. The attendance was gratifying under the circumstances. Dr. Arthur H. Compton, of the University of Chicago, was elected president. The Association Prize award of $1,000.00 was made to Drs. Dugald E. S. Brown and Douglas H. Marsland, of New York University, and Dr. Frank H. Johnson of Princeton University, for their two closely related papers: (1) "The Reversible Denaturation of Enzymes as a Determining Factor in the Reaction of Biological Systems of Temperature and Pressure," and (2) "The Mechanism of Temperature and Hydrostatic Pressure Reversal of Narcosis in Luminous Bacteria."

Section N (Medical Sciences) held a symposium on relapsing fever—the first in the history of medicine. Otto Obermeirer discovered a tiny organism in the blood of patients with

relapsing fever during the Berlin epidemic of 1867. Unquestionably one of the most important conclusions gained from these studies was the firm conviction that this disease has no geographical limitations. It may be present wherever there are infected ticks. Several papers followed on tick vectors and the life of the microörganism in infected ticks. Under laboratory conditions infected ticks have been maintained viable in a fasting state for 11 years and there is no reason to believe this interval marks the limits of their longevity.

Thus an explanation is available for outbreaks of relapsing fever in association with caves and houses over long periods of time. The final group of papers of the symposium was devoted to the poorly understood phases of the life cycle of the spirochetes, its effect on the human host, the diagnosis of the disease and its importance as a public health problem. The European disease studied by Obermeier is louse-borne and in times of strife, such as the present, may cause great suffering and death wherever men are concentrated under somewhat primitive conditions. In the western hemisphere, the disease is tick-borne and, while markedly debilitating, it rarely causes death in the well-nourished human host. Those charged with the care of the health of our armed forces will certainly be pleased that it is expected that the symposium papers will be published by the association and give the latest and best information about this malady.

The subsection (Na) on dentistry held a symposium on "Public Health Aspects of Dentistry with Special Reference to Fluorine."

Fluorine has been definitely proved to be responsible for the dental condition variously known as "brown spots," "Colorado brown stain," "mottled enamel" and "dental fluorosis." This tooth enamel malformation, subsequently stained through other agencies, is due to the ingestion, during the first eight years of life, of water containing fluorides. Amounts of fluorides in excess of two parts per million of water are capable of causing visible effects on the forming teeth.

Mottled enamel was first recognized and made a subject of study by F. S. McKay beginning in 1903. In 1916, in conjunction with G. V. Black, he published his first paper on the subject, establishing its limited geographical distribution. Until 1930, no cause for the mottled enamel had been found. Then H. V. Churchill, chief chemist of the Aluminum Company of America, using the better methods of water analysis that had been developed, established beyond question the presence of fluorine in water supplies of numerous areas of endemic mottled enamel and its absence where no mottled enamel occurred. Animal experimentation confirmed the conclusion that mottled enamel is produced by fluorides in the water used.

Thus far, as was pointed out, fluorine had been known to play only a destructive rôle. Within recent years, evidence has been accumulating to indicate that its presence in water in small and optimal amounts seems to reduce materially the occurrence of dental decay. Although the mode of action is not yet known, the enamel of teeth resistant to dental decay has been shown to contain significantly greater amounts of fluorine than is present in those which are susceptible to dental decay. It is expected that this authoritative survey of an important public health problem will be published as a monograph by the Association.

Subsection (Np) on pharmacy held two sessions, including a report by Donald Slaughter on "Prostigmine Potentiates and the Hypnotic and Analgesic Action of the Barbiturates"; the results of a study by Loyd E. Harris on Petro wax and a report by him that *Ephedra nenadensis* Wats, growing in southwestern Oklahoma contains no ephedrine; the results obtained by C. H. Walden and G. L. Jenkins in their study on *Hermidium alipes*, S. Wats, which proved that this drug contains a substance that increases blood pressure in a manner qualitatively and quantitatively similar to that of epinephrine; and a paper by T. C. Barnes on the electrical potential of frog skin in which he showed that the oxygen consumption is decreased about 40 per cent by 1 per cent sulfanilamide and that the excised auricles of the turtle are stimulated.

The summer meeting that was to have been held in Ann Arbor, Michigan, June 22-27, 1942, was canceled due to the withdrawal of the invitation of the University of Michigan. The accelerated program of instruction which involved the introduction of a full summer semester was the occasion of the withdrawal.

s/WARD GILTNER.

## Representatives to the U. S. Pharmacopeial Convention

Since our previous report the activities of the representatives of the American Veterinary Medical Association to the United States Pharmacopoeial Convention for the period 1940-1950 have consisted of certain correspondence and attendance by the junior representative at an adjourned session of the United States Pharmacopeial Convention at Cleveland, Ohio, Apr. 7, 1942.

The above mentioned correspondence, which is entirely to voluminous for inclusion or for briefing in this report, concerned a protest lodged with the Subcommittee on Scope of the Committee on Revision concerning the deletion

from U.S.P. XII of the following drugs, namely:

| | |
|---|---|
| acriflavine | capsicum |
| acriflavine hydrochloride | santonin |
| cantharides | turpentine |

Attendance at Cleveland, Ohio, on Apr. 7, 1942, at the adjourned session of the 1940 Decennial Meeting was in response to a call issued Jan. 6, 1942 by the officers of the United States Pharmacopoeial Convention. Technical matters are rarely if ever discussed in sessions of the convention proper and the meeting in question was given over entirely to the discussion and formulation of constitutional amendments to be acted upon at the decennial meeting of 1950 and to the adoption of by-laws which will come into force to govern that meeting.

Copies of the constitutional changes proposed and by-laws adopted are attached to this report. Among those of most interest to this Association are the following:

1) At the 1950 decennial meeting of the convention each institution, organization, or division of the federal government entitled to representation in the convention will have one delegate or alternate instead of from one to three delegates and alternates, as heretofor. This change will reduce the 1950 convention from nearly 500 to something less than 250 members.

2) The present office of "Chairman of the Committee of Revision" previously elected by the committee membership will be replaced by that of "Director of Pharmacopeial Revision" elected by the Board of Trustees of the convention.

3) Candidacy for the elective officers of the convention and for membership in the important Committee on Revision, the latter previously nominated by separate caucuses of the medical and pharmaceutical groups, will be more or less brought under control by eliminating the former nominating committee which consisted of one man from each delegation and replacing it by a committee of similar name made up of the ten chairmen of the revision subcommittees, plus four other members selected by the board of trustees.

4) The Pharmacopeia has previously been issued decennially. Hereafter it is planned to issue the book at approximately five-year intervals and the 1940 convention will issue, therefore, U.S.P. XII and XIII, the former this summer and the latter in 1947.

Further, it is the stated intention of the convention to maintain more or less constant revision by the issuance of supplements necessary.

As the 1940 convention consists of approximately 467 members representing 215 institutions, organization, and divisions of the federal government, the influence of any one organization or institution is relatively slight. As a proper means of increasing the influence of the veterinary profession in the Conventions following that of 1950, it is recommended that the delegates to that convention be instructed to present a constitutional amendmen authorizing membership in the 1960 convention of accepted colleges and state associations of veterinary medicine. I might state, parenthetically, that of the 215 organizations, institutions and services represented in the Pharmacopeial Convention, five (5) are government services, 72 are colleges of Pharmacy, 57 are colleges of medicine, 43 are state and other pharmaceutical associations, 21 are state and other medical associations, and 17 are miscellaneous associations, including the American Medical Association, American Chemical Society, American Hospital Association, American Dental Association, American Veterinary Association, etc.

In closing, I may say that my colleague, Dr. H. E. Moskey and I deeply appreciate the honor of having been the first representatives of the profession to this important body. Although the forthcoming U. S. P. XII is theoretically the first issue in the preparation of which the veterinary profession participated, it has been noted from the records that Dr. John R. Mohler served as a delegate to the 1930 Convention, representing the Bureau of Animal Industry, United States Department of Agriculture.

Although eight years of nominal service still remain to us, the remainder of our duties will probably consist largely of minor correspondence of an advisory nature in connection with the formulation of U. S. P. XIII. It has been a source of regret to us that illness prevented attendance at the 1940 session of the convention by the third designated representative of the Association, Dr. D. W. Ashcraft, and that this absence barred him from later service because of the convention rule by which membership depends upon participation in the first session and to that extent is personal rather than institutional. This rule should be given careful consideration in the selection of delegate and alternate to the 1950 convention in order that the interests of the profession may be properly represented in this important book which by various recent enactments of Congress has been given, in effect, status equivalent to that of Federal Law.

s/R. S. MUNDHENK
H. E. MOSKEY

## Research Council

I herewith submit the report of the Research Council for the year 1941-1942.

The organization meeting of the Research

Council was held at the Stevens Hotel, Chicago, Dec. 1, 1941.

Among the activities of the Council since its organization meeting are the following:

1) A survey of research activities has been made. In this a personal letter, with a pamphlet outlining the objectives of the Research Council, was sent to the deans of the United States and Canadian veterinary colleges, to the heads of all veterinary departments in the land Grant Colleges, to the directors of each of the agricultural experiment stations and to certain research foundations. A reply has been received from all states except two, and from Canada and from all research foundations except one. A summary of these replies, including research animal disease projects reported active, has been prepared and a copy furnished each member of the Research Council.

2) Preparation of a form of agreement for use by donors of research funds and the AVMA.

3) The preparation of a fellowship application form and the receiving of applications from candidates for fellowships.

4) The preparation of a pamphlet describing the fellowship project and coöperative aims of the Research Council.

5) Drawing up of a form of agreement between institutions receiving fellowships and the Research Council.

6) The examination of all manuscripts as to suitability for publication in the AMERICAN JOURNAL OF VETERINARY RESEARCH, submitted to council members by the editors.

During the year one fellowship, held by Dr. L. Meyer Jones, a graduate of the Iowa State Veterinary College and until recently on the staff of the Department of Veterinary Physiology and Pharmacology of the Iowa State College, has been established in the Graduate School of the University of Minnesota. This fellowship was made possible by the generous donation of Merck & Co. Dr. Jones' research work will be on the chemotheraphy of calf pneumonia and will be done under the direction of the Department of Pharmacology coöperatively with the Veterinary Division of the University of Minnesota.

s/E. T. HALLMAN, *Chairman.*

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The veterinary profession, owing to a lack of concerted action of its members through the years, is in danger of being superseded by outsiders over whom it is losing control. But, having a just and reasonable cause to fight for, it is not too late to build up a solid front that will accomplish its purposes.

## Some Quotations from Veterinary Military History

War, for popular consumption, is held out as a struggle for principle, but it is implicitly a fight for property and, therefore, should not waste property.—*Vol. 1, p. 72.*

• • •

We have no patience with the sentimentalist who throws a fit over the welt of a spur and overlooks a thousand horses suffering from preventable contagions.—*Vol. 1, p. 76.*

• • •

Although no machine has yet been built by man that can supplant animals as a means of draft and transportation in the forward area of a combat zone, who can predict that no machine adequate for the purpose will ever be developed.—*Vol. 1, p. 96.*

• • •

The states not only gave them (the early veterinary schools) no support but paid them no attention. A bit of moral support would have encouraged them. The states had other plans. Theirs was to protect the livestock industry against disease by teaching the owners how. The idea seemed plausible and has never died out. It was then and is now the politician's system of veterinary medicine and, be it said, agriculture's method also.—*Vol. 1, p. 317.*

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## The First Veterinary Officer

The first veterinary-military officer of history was Francois Louchard, *professeur de forge*—horseshoeing—at the Alfort school, who, in 1788, was named "Veterinary Inspector of Transports and Convoys and Chief of the Messinger Service" of France. He died in Paris in 1816. His son Antoine Louchard, an alumnus of Alfort, also became a military-veterinary officer. Antoine became a prominent figure in the development of early army veterinary service through having been instrumental in forming the *Commission d'hygiene hippique* (equine hygiene) in 1843, which was in fact the first veterinary corps of all times.

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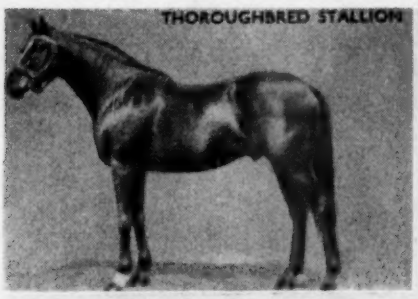


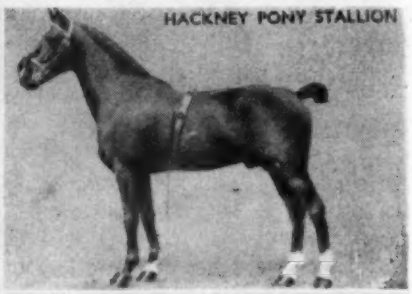


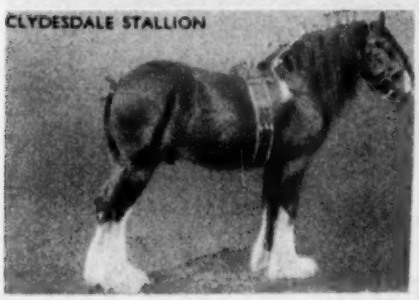

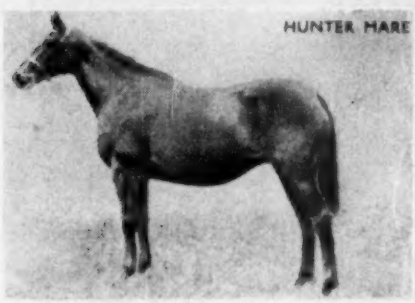


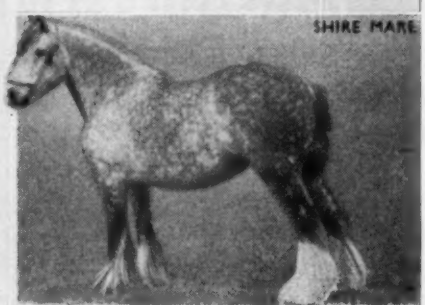

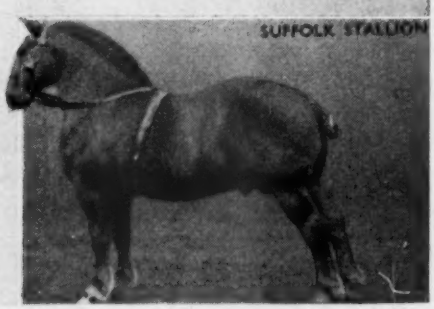


In Great Britain contributions are raised for the "British Red Cross Agricultural Fund" by selling stickers of famous breeds of British livestock at a penny each. The above are full size reproductions of the stickers for horses. To help the cause the AVMA procured a bundle of these sheets of pictures which will be sent free to members on receipt of 10 cents to defray cost of packing and postage. The sheets contain specimens of cattle, sheep, swine and goat herds also.

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## *An' Related Topics*

### Words and Bayonets

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The Gallup poll shows that farm leaders and lobbyists in Congress, not the horny-handed farmers, are opposed to ceilings which capable economists believe are necessary to prevent disaster.

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### Remember These Things When You Go Shopping

1) All our clothing, all our house furnishings, and most of the food and other things we buy, now have their top prices fixed. Maximum prices are fixed for many services such as laundry, dry cleaning, and shoe repair.

2) A store cannot charge us more for a "price-controlled" article or service than its highest price in March 1942. (Excepting that in the case of a few food items, such as lamb or canned fruits and vegetables, the "ceiling" price may be somewhat higher).

3) Prices for the same goods do not have to be the same in every store. Each store has its own top prices, depending on what that store charged in March.

4) Stores must plainly show their top prices for certain goods that are important in the daily living of most Americans—but top prices will not be displayed on all price-controlled items. The signs will read "Ceiling Price, $...." or "Our Ceiling, $....."

5) Stores cannot sell for more than their top prices. But they can sell for less if they want to.

A BLAND PREPARATION . . .

*Mulford*

# Tyrothricin

VETERINARY

## FOR THE TREATMENT OF CHRONIC BOVINE MASTITIS

Tyrothricin, a combination of gramicidin and tyrocidin, obtained from Bacillus brevis, has proved remarkably effective in the treatment of chronic bovine mastitis due to Streptococcus agalactiae.

Local instillation of aqueous or alcoholic tyrothricin preparations frequently produces intense irritation, swelling of the treated quarter, and a marked elevation of temperature. *Mulford* Tyrothricin, on the other hand, rarely exerts undesirable side-effects because the active principles are suspended in the aqueous phase of a bland, light mineral oil emulsion. When *Mulford* Tyrothricin is used it is possible to repeat treatment on the second and third day if desired.

*Dosage:* 20 cc., instilled aseptically into the milk cistern via the teat canal. Treatment may be given either during the lactating or non-lactating period.

**MULFORD *TYROTHRICIN* VETERINARY** is supplied as follows:
V 80-74. . . One 250-cc. bottle . . . . . $4.90 list
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MULFORD BIOLOGICAL LABORATORIES

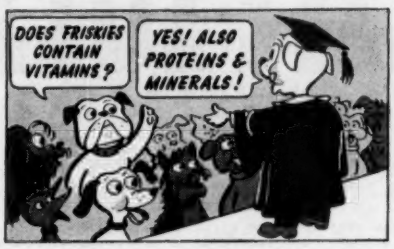
**SHARP & DOHME**

*Philadelphia, Pa.*

## FACTS ABOUT FRISKIES

### THE COMPLETE DOG FOOD!

Friskies is a *complete* food because it contains everything a dog needs in the way of food—specifically, 19 essential ingredients for proper nutrition, ingredients so necessary for strong teeth and bones, a healthy coat, plenty of pep.




Friskies contains meat and bone scraps for the proteins all dogs need. Also specially prepared cereals, dried skimmed milk, lots of minerals and *six* important vitamins: A, $B_1$, D, E, G ($B_2$) and K.

Dogs go for Friskies—they like its pure wholesome flavor. The Friskies formula is the result of more than ten years actual "taste tests" in the Friskies laboratory kennels at the famous Carnation Farm.

### START FEEDING FRISKIES TODAY!

**FREE BOOK!**
32 pages of vital information about the feeding and care of your dog. Write: Friskies, Department 2, P.O. Box 71, Oconomowoc, Wis.

TESTED AMERICAN VETERINARY MEDICAL AND ANIMAL HOSPITAL ASSOCIATIONS APPROVED


## *An' Related Topics*

### Boarding "Vacation" Dogs

*Dog News* for August argues against leaving dogs at veterinary hospitals during vacations. "Your best solution is a good boarding kennel," the writer says. This advice is based upon the logical ground that keeping dogs in small cages with no other exercise than that provided for the sick and exposing dogs to infectious diseases are not wise practices. An exception is made of hospitals in rural districts where there is unlimited room for handling boarders, as it should be. But, there are two or more sides to this question. Keeping a client's dog for a week-end or short absence is an accommodation that is appreciated. Boarding kennels seldom are as conveniently accessible and the pet-shop type of boarding house, located within the city, is not as sanitary as the hospital, as a rule. The owner of an veterinary hospital in near-down-town Chicago, when interviewed on this matter said, "I'd be murdered, if I refused to board dogs when my client's go on a vacation." The fact that these dog owners prefer the hospital to the pet-shops, is the answer, even where such shops are available, and who wants to trek out into the suburbs or country to leave a dog for a few days?

On the other hand, when the veterinarian intrudes upon the business of the boarding kennel, nearby and sanitary, he weakens his position *vis-á-vis* the kennel owner who practices veterinary medicine illegally. Where no effort is made between veterinarian and kennel owner to come to an understanding in this respect, the case is one fighting for the legitimate business of the other with no holds barred.

To claim that treating the sick is not as attractive to some kennel owners as boarding, clipping, bathing, and plucking is to many veterinarians, is claiming what does not seem to be true. But, where kennel and hospital come to an amicable understanding on these sidelines, there is no friction.

---

Our nomination for the office of champion killer, is man himself.

## The same basic formula that earned for Pard the confidence of the profession

Veterinarians have for years recommended Pard as a sound, nutritious diet for dogs. Now they can continue to do so with perfect confidence. For New Pard is as *rich* in the same health-building ingredients as before. Only the moisture has been removed by scientific dehydration* to permit new packaging that saves tin. To restore it, simply add water before serving.

You will welcome the economy of feeding New Pard. Because it provides the essential food elements, minerals, and vitamins needed for fine condition —no other food is necessary. 2 packages of New Pard go just as far as 3 cans did—and dogs like it every bit as well!

**An original Swift & Company process—patent applied for.*

**Looks like fresh ground food** when water is added! New Pard is scientifically dehydrated—not baked or dried at high cooking temperatures.

**Convenient for dog owners!** Add only water. No food supplements needed. No stirring, no mixing. Keeps without refrigeration.

## *An' Related Topics*

### War IS Hell

A Chicago housewife said that a government that told her how much sugar to eat isn't worth fighting for. This one has been on relief for several years.

---

The wife of a nickel-in-the-slot-machine maker told a group of bridge players that she hoped Hitler would win so that her husband's business would not be molested.

---

Airplane operators appealing for more planes found that one of the plants appealed to was closed by a strike over a trivial dispute between labor unions.

---

Operators of summer cottages in New England strafed the government for interfering with vacations by the rationing of gas.

"What right has the government to tell me I can't drive over 35 miles per hour?" is a wisecrack heard in a Chicago restaurant.

MEANWHILE

As the Germans came rushing on, a Russian farm wife burned the farm buildings, scorched the crops, poisoned the well, and became a wanderer with her children with little hope of surviving.

---

Survivors of a torpedoed ship adrift on a raft, wet their lips four times a day with their dwindling water supply and ate the leather of their shoes for 41 days.

---

Twenty-six children and fifty-nine adults were killed and many were injured in London when a bomb dropped more than a year ago exploded in the cellar of an apartment dwelling.

(*Continued on p. xxiv*)

**Sulfanilamide Powder**

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| 1 lb. bottle | $1.60 per lb. |
| 5 lb. cans | $1.57 per lb. |
| 25 lb. drums | $1.52 per lb. |

**Sulfathiazole Powder**

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| 1 lb. bottles | $7.25 per lb. |

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## *Phenothiazine Bolus*

**Each PhenObole contains an accurately measured dose of the actual amount of phenothiazine needed for effective mass treatment of sheep, swine, horses and mules. There is no guesswork about sick animals receiving the required dosage.**

**PhenOboles disintegrate quickly. They are easy to administer by hand or forceps. Animals swallow them without difficulty.**

***12 ½ gram size (for lambs and hogs) in boxes of 25 and 100.***

***25 gram size (for sheep, horses and mules) in boxes of 25 and 100.***

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Qualified veterinarian for sales and advertising. Must be familiar with veterinary literature. Starting salary, $3,000. Address: "JK," c/o Journal of the AVMA.

### Books and Magazines

WORLD MAP OF DOGS—Unique, Educational; 19" x 24"; $1.00 each (3 for $2). Also Chart of All American Breeds, same size, same price. A complete American work on dogs. *Judy's Dog Encyclopedia*, with supplements, $5. Judy Publishing Co., 3323 Michigan Blvd., Chicago, Ill.

### For Sale

SMALL ANIMAL HOSPITAL and home, fully equipped. Located in California boom town, San Diego. Excellent location and opportunity. Owner in armed forces. Address: "BJ," c/o Journal of the AVMA.

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*Issued Under Date of*

October 1940
January 1941

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600 S. Michigan Chicago, Ill.

**Here Are The Facts Of My Life**

**If Pop hadn't gotten a shot of PERANDREN, "Ciba," I wouldn't be here. He was quite a dog, you might say, and although Mom is a beautiful thing it didn't click till after that shot. Then, I had an unfortunate experience in having what the Doc called "cryptorchidism"... and now that's all straightened out because he gave me shots of that same PERANDREN*.**

**Honestly, the effects of the PERANDREN (testosterone propionate) made a big difference in the way I grew and in my pep and dogginess. I hear, too, that the Doc now uses it on horses, sheep, foxes, cats and lots of other animals.**

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**MASCULINIZING HORMONE**

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*Trade Mark Reg. U. S. Pat. Off. The word "Perandren" identifies the product as propionic acid ester of synthetic testosterone in sesame oil of Ciba's manufacture.

**CIBA PHARMACEUTICAL PRODUCTS, INC.**
**Summit New Jersey**

C · I · B · A

## *An' Related Topics*

*(Continued from p. xxii)*

Lt. Henderson dived into the funnel of a Japanese airplane carrier during one of the battles of the Pacific.

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Thousands of American captives are suffering in the hands of the Japanese in far away places, and other thousands are fighting for their release as well as for the sugar of the housewife on relief.

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### The Farm and the Home

Farmers, through voluntary spokesmen, are claiming that they are the "first in war and the first in peace," first at Bunker Hill, World War I and World War II. And why not? They have more at stake than anyone else. Land can be nationalized. According to a doctrine we are fighting against, land is as much everybody's property as the rays of the solar spectrum, and this particular war can and may prove the theorem—if Hitler wins.

John Howard Payne and Stephen Foster weren't thinking of the price of pigs and hog-cholera vaccination when they wrote the greatest of all musical hits.

Says *Hoard's Dairyman:* "It is not difficult to visualize what the effect would be on our total food output if farmers should strike." Nothing much would happen except that the town people would scatter over the country for things to eat just as naturally as they now flock to the park for a breath of fresh air. Farmers wouldn't have to worry, they have their farm bloc.

---

Our independence is threatened by such little things as rubber, tea, and quinine in the hands of the enemy.

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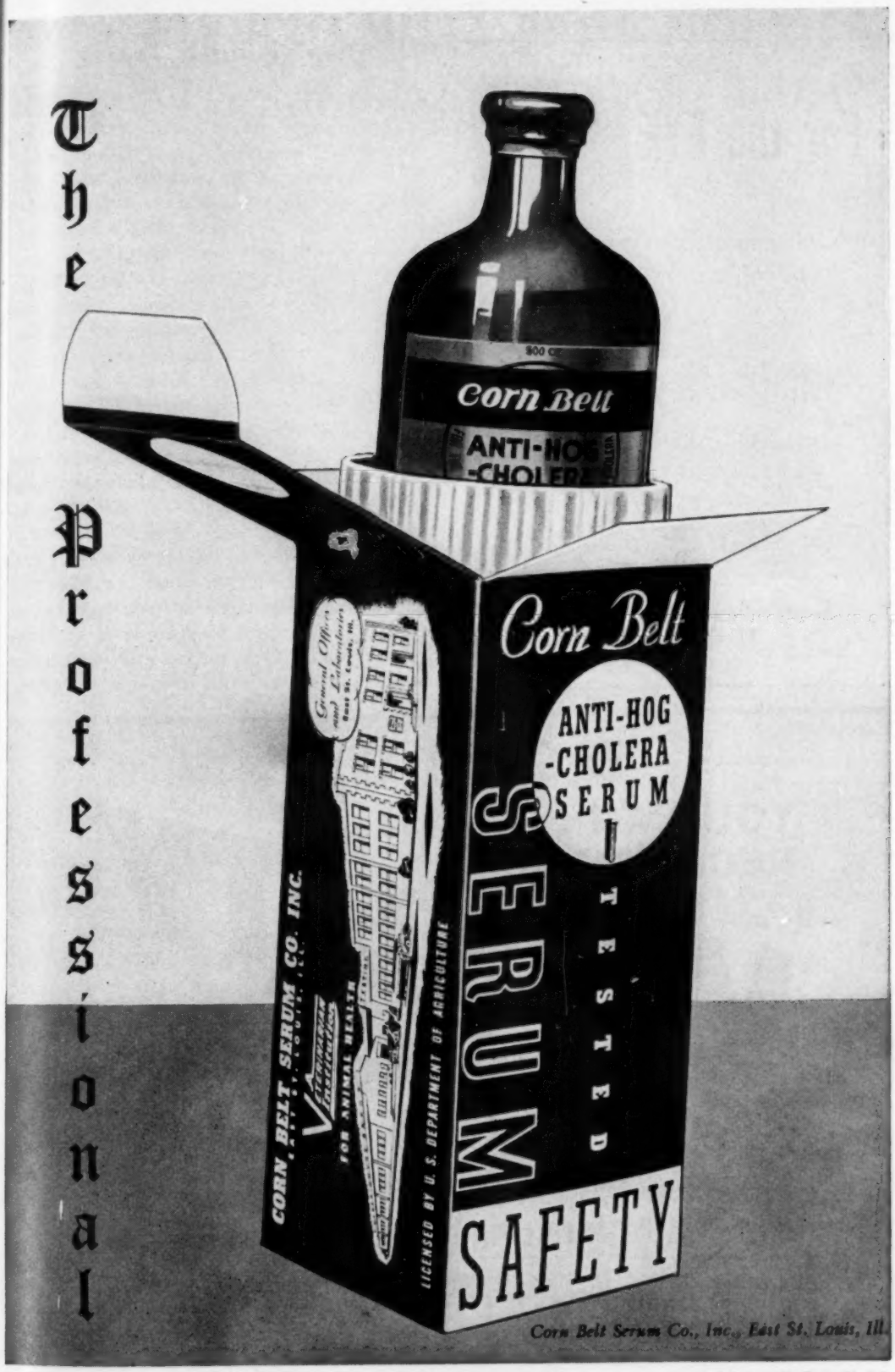


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10 Tablets $1.00

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**Kansas City, Kans.**


## *An' Related Topics*

### What's Your Breed?

The department of social anthropology, Columbia University, Dr. William Lloyd Warner speaking, investigating the social set-up of the smaller American cities—15,000 to 20,000—found more recognizable strata of society than appears to exist among the inhabitants of the larger cities, notwithstanding that these populations "profess a democratic ideology." The social classes in that group of cities not only split up into upper, middle and lower classes but subdivide these into "upper upper," "lower upper," "upper middle," "lower middle," "upper lower," and "lower lower" classes, all home made and non-miscible.

---

The prevention of caries by adding synthetic vitamin K to sugar (candies) is among the newest therapeutic rumors. It is said the removal of vitamin K from the juice of cane in the process of purification is a factor in the high incidence of caries.


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## *An' Related Topics*

### This Is a "Total" War

Alexander the Great would have said that you were talking nonsense if you had been there to suggest that sugar had any bearing upon military success. In those days you got together a lot of professional soldiers and marched them into a field some place where they fought hand-to-hand with another army of professional soldiers. War was something of a nuisance to the peasant when it swept over his fields, but for the most part the civilian population was little engaged and life behind the lines went on about as usual.

Today we have total wars. Totality means that life behind the lines does not go on as usual, and cannot go on as usual. Who today is the non-combatant? I have yet to meet him. This war is being fought everywhere in the world the contending forces can get at each other—from the ice floes of the Arctic to the hot sands of the desert. Such inoffensive implements as skiis are important instruments of war in Russia, and in Burma the Siamese and the Japs are using elephants. It is being fought in American factories. It is being fought in American canning plants. It is being won or lost in American homes.

Excerpt from an address by A. E. Bowman, chief of the Sugar Section, War Production Board, delivered before the national convention of the American Wholesale Growers' Association, Chicago, January 27, 1942.

### Decorate 'Em All

If only good things are to be said about everybody and his dog, let us stop the printing presses, avoid the expense of a dog show, and give every dog a blue ribbon by mail.—*Dog World.*

IN CANKER
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# There Are Three Successful Methods

**of controlling losses due to infection incident to the shipment of cattle.**

1. The injection of Hemorrhagic Septicemia Bacterin (or Mixed Bacterin Bovine, Formula 1, or Pasteurella-Pseudodiphthericum Bacterin) at least ten days before the cattle are due to be shipped. This method is not recommended for use immediately before, during or immediately after shipment.
2. Immediately before shipment of cattle inject Anti-Hemorrhagic Septicemia Serum (Lockhart). Dosage: 8 to 10 cc per hundred pounds weight.
3. During shipment or immediately after arrival at destination inject Anti-Hemorrhagic Septicemia Serum (Lockhart). Dosage: 12 to 15 cc per hundred pounds.

**Anti-Hemorrhagic Septicemia Serum** (Lockhart) is prepared from mature bovines, known to be immune to the various "Shipping Fevers" of cattle.

*The above recommendations are in keeping with the discussion of this subject appearing in the 1942 Yearbook of the U. S. Department of Agriculture, "Keeping Livestock Healthy," pages 526-532.*

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## WILL NOT SOLIDIFY

A new process developed by the Jensen-Salsbery Laboratories makes Phenothiazine available in a convenient liquid form for administration via stomach tube or dose syringe, or for mixing in the feed.

**Pint, $0.95; Gallon, $6.25**

Dosage: Sheep, Mature 2 fl. oz., Lambs 1 fl. oz., Swine, 1 fl. oz. per 100 pounds; Horses, 2½ fl. oz. per 1000 pounds; Cattle, Mature 4 fl. oz.; Poultry, Mature, for 100 birds, 4 fl. oz. added to the mash. Repeat treatment may be given in 3-4 weeks.

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